



BOROUGH OF SALFORD.

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ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1887.

BY

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DIPL: PUB: HEALTH, CAMB:


MEDICAL SUPERINTENDENT OF THE SALFORD FEVER HOSPITAL.

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*Public Health Department,*

*Town Hall, Salford,*

*August, 1888.*

TO THE GENERAL HEALTH COMMITTEE.

GENTLEMEN,

Herewith I have the honour to present to you my report on the general sanitary condition of Salford during the year 1887; and, in doing so, I venture most earnestly to solicit your attention to the unsatisfactory condition of the public health, which, in common with its immediate predecessor, the present report discloses.

The Vital Statistics which formed the basis of my report for 1886, were of so unfavourable a character that, in a letter introductory to that report, I was constrained to give warning of a serious defection in the state of the public health in our poorer neighbourhoods, which, even at that date, appeared to have definitely set in. Unhappily, the adverse impressions derived from the events of the year 1886, have been still further strengthened by those of the period under present notice.

The evidence upon which this unfavourable opinion rests, is, I think, fairly set forth in that portion of the accompanying report which deals with the health and sanitary condition of the various districts. Briefly, it amounts to this: In consequence of favouring meteorological and other conditions, the health of the country generally, as indicated by local mortality, and especially the health of other great English towns, has shown a great and steady improvement throughout the last two years. But during this period, the death-rate of our own borough, has, on the contrary, presented a noteworthy increase, as compared with recent previous years: so that, even without correction for the recent fall in the birth-rate, our present rate of mortality is in excess of the normal or life-table rate, by not less than 23 per cent. The district of Greengate, which contains much of the oldest house property in Salford, is the one which normally presents the highest death-rate; but in the last two years, even the Greengate rates have exceeded the mean in the two years immediately preceding, by more than 12 per cent. In the year 1886, the local death-rate was equal to 30 in each thousand of the population, and to 32 in the following year. These rates are the highest which

have been recorded here, in any year since the last census. Now it would have been a relief to find that the excess in the mortality of this ill-fated district had been compensated by a concurrent diminution in that of the remaining areas of our town ; unfortunately, however, we are disappointed here also, for there has been an increase in the mortality of every one of the four districts of Salford. Even the Broughton district—assuredly the healthiest in the borough—has shown a mean death-rate in the last two years, which is in excess of that of any corresponding period since the year of the last census.

The *true meaning* of the recent excess in our borough death-rate will be more perfectly realised if the case be thus stated :—Assuming that the Salford rate of mortality in 1887 had not exceeded the life-table standard—*i.e.*, the rate which would have prevailed had our population been as healthy as is that of England and Wales on the average,—the loss represented by the occurrence of more than nine hundred deaths, and at least as many thousand attacks of disabling sickness, together with all the suffering and misery thereby entailed—would have been spared to the community, in that one year alone. I respectfully commend this view of the case to the attention of our local philanthropists.

Under the appropriate headings in the following pages, details are given of the particular death-causes which have contributed to swell our mortality in the year under notice. The causes of the enormous death-rate amongst infants and young children are there commented on, and the effects are shown of prevailing influences injurious to health, on persons at the various other stages of life. In this place, I cannot do more than refer the inquirer to my appended remarks on the vital statistics of the borough, for fuller particulars on these important topics.

Returning, once more, to a brief consideration of the more or less abiding conditions of life, to which I have often previously adverted, as responsible for the continually excessive mortality in our poorer areas, many of which conditions are doubtless amenable to the sanitary powers conferred by statute law ; I must venture, yet again, to commend them to the patient attention of the Committee.

In the annual report, which at the end of 1886 I had the honour of submitting to the Committee, I carefully reviewed the local influences prejudicial to health which were at that time in operation : and as the



sanitary history of 1886 does not differ materially from that of the year under present notice, I feel that I cannot do better than repeat here the remarks which I presented for the consideration of the Committee at the close of last year. In the letter introductory to my report for 1886, the following passage occurs:—

“The causes of the recent depression in the public health of Salford, are, in their nature, neither exceptional nor obscure: they are essentially those to which I have often previously referred, as accountable for the habitual unhealthiness of certain parts of our town. They consist intrinsically of filth-pollutions of the air, the dwelling, or the ground; they are, in fact, the inevitable result of overcrowding, and may be produced at will, either by the aggregation of persons in unventilated dwellings, or by the mere accumulation of dwelling-houses on an insufficient area. It is to the persistence of these faulty surroundings, in various degrees of intensity, from year to year, and to the evil habits thereby engendered amongst the inhabitants, rather than to any abnormal or mysterious agency—that are to be attributed both the recent increase in our death-rate, and also the permanently high fatality which besets infant existence in Salford.”

In that portion of the present report which deals with the subject of sanitary progress,\* I have gratefully recognised the good work which in past years has been carried out by our Sanitary Authority for the amendment of the conditions of human life in our older neighbourhoods; but still, with existing evidence before me, I am bound to keep prominently before the Committee the need which even yet exists for further and even greater effort for the improvement of these conditions.

In directing attention to the principal sanitary improvements which still await execution at the hands of the Sanitary Authority, I suggested in my last annual report, the appointment of a representative sub-committee which should be charged with the duty of examining the areas of the borough that most urgently require sanitary amendment: the sub-committee referring their proceedings, for confirmation, to the General Health Committee. During the past year, the Committee's attention has been so busily occupied in the attempt to provide suitable hospital accommodation for Salford, that little leisure has probably remained to them for the consideration of this suggestion. I trust, however, that in the coming year, it will be deemed

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\* See page 19

expedient to constitute such a committee, and that when appointed, it will receive the necessary support, alike from the Health Committee and the Council.

Shortly after the census of 1881, I projected a scheme for the making of a sanitary survey of, at any rate, the worst portions of the borough; and as a necessary preliminary thereto, I constructed a chart which was presented to the Committee in the year 1884, showing the mean annual death-rate in each of the 208 enumeration districts into which Salford was divided for census purposes, the populations of which areas were therefore known. With respect to that chart, I need only here remark that it indicates the appalling fact, that in the years 1879 to 1883, more than thirty-four thousand of our population were living under conditions which led to the annual loss by death of 35 in each thousand of their number. I know of no reason to doubt that—given a new census, by means of which the true population of these districts might be ascertained—a similar state of things would be found to obtain at the present day.

But, unfortunately, this scheme, which, as I have said, was merely projected in 1881, has never, hitherto, been realized; for, shortly after the passing of the Notification Act, in 1882, the functions devolving on the inspectors in consequence thereof, came to be so onerous, as to monopolise their attention almost entirely. Consequently, my project has been of necessity abandoned since that year, and up to the present time it has been found impossible to resume it. In like manner, also, and for the same reason, I have been obliged to discontinue the system of “house to house inspection,” which up to the year 1882 had been carried on here as opportunity served, with a fair amount of assiduity, and with great benefit to the inhabitants of the borough.

And this brings me face to face with an important topic, which materially concerns the future progress of sanitation in Salford, and for which, therefore, I venture most earnestly to crave the consideration of the Committee. I refer to the utter inadequacy of the present inspecting staff for the due protection of the public health, according to the requirements of statute law. Under the appropriate heading\* in the appended report, particulars are given of the staff at present employed in the Health Department, and of the various duties in which they are engaged. It will there be seen, that

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\* See page 77.



only one sanitary inspector is provided in Salford for every forty thousand of the population : and that, with respect to this large number of persons, each inspector is charged with certain important and often delicate functions which are particularised in the section referred to. From a consideration of the variety and extent of the important duties required from the individual inspectors, it will be obvious to the most cursory observer that an inspecting staff consisting of only four district officers and a superintendent, is wholly insufficient for the preservation of the health of a population exceeding one-fifth of a million.

It is notorious that, with respect to health matters, public opinion still continues to be exceptionally unpropitious ; and on this account there is, of course, in times of depression like the present, all the more difficulty in obtaining the sanction of the ratepayers for the expenditure of money on projects of a sanitary character. In this respect public health fares much worse than do other questions of similar importance : such, for instance, as elementary education, the maintenance of the peace, the guardianship of the poor, &c. But public opinion is indiscreet in its bestowal of privilege : for whilst it cheerfully agrees to the adequate officering of other branches of the public service, it nevertheless demurs to the like equipment of that department, upon the efficiency of which depend the health and comfort—even the very life of the people ! That this is so may be shown by citing the familiar case of the School Board, an institution of quite recent growth, which, like the Public Health, is supported out of the rates ; and yet so amply has the administration of the Education Act been provided for, that a “School Attendance Officer” has been appointed in Salford for the supervision of every 3,000 school-going children on the rolls. I feel confident that the School Board have acted with true economy, in thus adequately officering their department ; but it is impossible to avoid contrasting with this policy the previously mentioned fact, that in our Health Department each inspector is held responsible for the sanitary protection of not less than 40,000 of the population !

On referring to the earlier records of the proceedings of the Salford Council, I find that soon after the inauguration of a General Health Committee, and the appointment of the first Medical Officer of Health in 1868, five inspectors, namely, three for Salford, and one each for Pendleton and Broughton, were appointed to carry on the sanitary work of the borough. The duties assigned to these officers were similar to those which our present inspectors discharge,

as far at least as the removal of nuisances, the prevention of disease, and general sanitary inspection are concerned; but subject, of course, to the limitations imposed by the state of the law at that time, which conferred relatively few and insignificant powers on the nuisance authorities and their officers.

Now, it must be remembered, that in the year 1868, the population of Salford did not exceed 118,000, or little more than half of the estimated population of to-day. It follows, therefore, that even on the assumption that no fresh duties had been subsequently imposed on the inspecting staff, the mere addition to the population of 100,000 persons since that date, would have caused a formidable increment in the labour of the department. It is familiar knowledge, however, that the work devolving upon this office in recent years has extended vastly: it has increased with the growth of the population, but in a much greater ratio. Ever since 1876, in which year our Fever Hospital was opened for the reception of patients, the duties of the sanitary inspectors have been materially increased, in consequence of the new and dangerous work entailed on them by the removal of patients to hospital, and since the passing of the Notification Act, by the home visitation of reported sick cases. It is no exaggeration to say, that the amount of work which is now demanded of the Salford Health Department is fully double of what was required of the same staff, not more remotely than a dozen years ago.

The Act of Parliament which defines the functions of sanitary authorities and their officers, is the well-known Public Health Act of 1875, section 92 of which reads as follows:—

“It shall be the duty of every Local Authority to cause to be made from time to time, inspection of their district with a view to ascertain what nuisances exist, calling for abatement under the powers of this Act, and to enforce the provisions of this Act, in order to abate the same, &c.” And again, section 7 of the Housing of the Working Classes Act, 1885, says:—

“It shall be the duty of every Local Authority entrusted with the execution of laws relating to the Public Health and Local Government, to put in force from time to time, as occasion may arise, the powers with which they are invested, so as to secure the proper sanitary condition of all premises within the area under the control of such authority.”



Assuming that the words of the above sections retain their ordinary meaning, it would appear that Sanitary Authorities have no option but to provide adequately for the regular inspection of their district, as well as for the due execution of all sanitary requirements. And in this connection the fact deserves consideration, that notwithstanding the heavy additions to the work of the inspectors which are enumerated at page 78, as having been made in recent years, the staff of nuisance inspectors has never been increased\* since the Salford Health Committee first received its commission from the Council, just twenty years ago.

Now, even a slight acquaintance with the circumstances of life in "Old Salford," will suffice to show, that although it is desirable, and even necessary, that the re-housing of the inhabitants should be expeditiously effected, nevertheless the execution of so enormous and so costly a scheme must naturally be a matter of time. Meanwhile, however, it is certain that many poor people are needlessly perishing; and if this waste of human life is to be checked, it appears to me that the policy most likely to be effective, is that of providing adequately for the systematic home visitation of the poor, so as to minimise, as far as possible, the risks incidental to the occupation of dwellings of such faulty construction.

The Salford Health Committee have always been foremost amongst Sanitary Authorities in their endeavours to safe-guard the health of the people under their charge, and I have therefore confidence in appealing to them for such an increase in the inspecting staff connected with my department, as will enable me to exercise the needful supervision over the 202,000 people who at present inhabit the borough.

But, although the Sanitary Authorities of our great towns are properly held responsible for the amendment of the dwellings, and other physical circumstances of the localities inhabited by the wage-earning classes; nevertheless, it is evident, from the nature of the case, that there are limits to the degree in which the sanitary welfare of the masses depends on the exertions of a local authority. The habits of the people themselves—the preparation of their food, the cleansing of their houses, the nursing of their sick, the mode in which their children are reared—all these are matters which are plainly

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\* It is true that two officers have been added to the Health Department since 1874; one to supervise the Canal Boat traffic, and to administer the Food and Drugs Act; the other to control the smoke nuisance. In the early days of the Health Committee, the duties of smoke prevention were transferred to this department from the river inspector and the police. The duties of sanitary inspection proper, have in no wise been lightened by these appointments.

outside the control of a sanitary authority, and yet they are known to have a far reaching influence on the public health. The truth must therefore be insisted upon, again, and again, that it is to the education of the people themselves in matters concerning their own health, and to the awakening of a livelier interest in their welfare, amongst the classes above them, that we must look for any permanent amelioration of social life amongst the poor.

There are educational agencies at present in operation here which are well calculated to further this needful work. The excellent series of lectures delivered during the year at the instance of the Manchester and Salford Sanitary Association, and published\* at a low price, have undoubtedly been helpful in this direction. At intervals, also, in the course of the past year, through the courtesy of Ministers of Religion, of the ladies of our Sanitary Association, and of others, I have myself been privileged to address considerable gatherings of school teachers, Sunday scholars, members of mothers' meetings, &c., on subjects connected with personal hygiene; and from what I can learn of the way in which these addresses have been received, I have reason to be gratified with the experiment. I am also encouraged by the representations of fellow-workers amongst the poor to believe that the items of sanitary information and advice which from time to time I have circulated amongst the people, by means of official pamphlets and handbills, have been thoughtfully read by large numbers of the poor.

As time advances, evidence is accumulating to show that one of the untoward effects of the aggregation of children in our elementary schools, is the propensity to encourage the spread of infectious diseases. In order, therefore, to counteract this unfortunate tendency in schools to the propagation of fatal infections amongst a section of the public whose health it is economically most desirable to preserve, I have of late successfully endeavoured to establish mutually confidential relations with the teachers of the several elementary schools in the borough, invoking their co-operation, and giving them prompt information of infectious sickness occurring in the families of children in actual attendance at school. It is difficult to exaggerate the administrative importance of this arrangement, which I am able to carry out successfully in consequence of the medical information received under the Notification Act, as to the occurrence of the more important infectious diseases incidental to children.

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\* These lectures may be obtained from Mr. John Heywood, of Manchester, or from any bookseller at 1d. each.



But as years roll on, the conviction deepens in my mind, that the expedient which, above all others, must be looked to for the improvement of the physical surroundings—the brightening of home life—amongst the poor, is that of personal visitation of the people in their own homes by a sufficient number of benevolent ladies, who enjoy the necessary leisure, and who have the ability to give wise advice ; and above all, to so communicate it that it shall be acceptable to those for whom it is intended. That noble band of workers—far too few in number—the ladies and their mission women of our Sanitary Association, are doing this duty in a manner which is above praise, but which is indeed highly appreciated by the fortunate few who at present benefit by these priceless ministrations. I would that the number of labourers in this hopeful cause were even approximately adequate to the enormous task before them.

During the year 1887, a great boon has been extended to Salford, by the establishment, in the Adelphi Terrace, of a local branch of the Manchester and Salford Sick-poor Nursing Institution. This branch, which is known as the “Adelphi Home,” accommodates nine resident trained nurses, and employs five more, who reside in the districts wherein their work lies. Nine of these nurses—*i.e.*, five resident and four non-resident—are engaged, under the direction of the lady superintendent, who is also a trained nurse, in attending on the sick and injured in the poorer districts of this borough. Of the way in which the work of this institution is carried out in Salford, I can speak from personal knowledge, and can say of it, that it is not only well and tenderly done, but that it is done in such a way as neither to pauperise nor to wound the self-respect of those who are the recipients of aid. I most heartily commend this admirable institution, and also the association previously spoken of, to the support of the wealthy philanthropists among the citizens of Salford.

With this imperfect introduction, gentlemen, I submit this, my fourteenth Annual Report, to your thoughtful consideration. The following pages contain evidence of a condition of the public health, which is certainly less satisfactory than it ought to be ; and this fact will doubtless receive your anxious consideration. The adverse influences, however, with which Salford has to contend in the race for health, are greater and more permanent than are those of most other towns. But nevertheless I have every confidence that the public spirit which has always actuated the Health Committee,

in their endeavours to improve the conditions of life in Salford, will ultimately enable you to accomplish the worthy object which you have at heart, namely, that of realising a high and satisfactory standard of the Public Health.

As in previous years, I beg to acknowledge in this place, my indebtedness to those who have in various ways assisted me in the work of sanitation during the past year. My thanks are especially due to the members of the medical profession in Salford, who have rendered me efficient and willing assistance in my increasingly difficult duties; and I desire, once again, to offer my grateful acknowledgments to the editors, respectively, of the Manchester and Salford press, for the generous assistance which they have rendered the cause of Public Health, by the prompt and gratuitous publication of my weekly and quarterly returns.

I remain, Gentlemen,

Your obedient Servant,

JOHN TATHAM.



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IN CONFORMITY WITH THE LOCAL GOVERNMENT BOARD'S  
GENERAL ORDER, 1880, NO. VII.

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### APPENDIX.



# REPORT.

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## I. *An account of the Health and Sanitary condition of the Borough of Salford.*

**Health of the people.—Meteorology.**—As in the case of the year 1886, so also in that of 1887, a careful examination of the bills of mortality, indicates a condition of the public health far less favourable than that which prevailed in the first five years of the current decennium. The uncorrected rate of mortality was equal to 24·0 per 1,000 of the estimated population; and was therefore in excess of the average rate in the five years immediately preceding by 0·9 per 1,000. But unfortunately this fractional increase in the rate of mortality does not reveal the true gravity of our position; and this, in common fairness, I must now endeavour to show. In previous reports, I have drawn attention to the serious and steady diminution in the proportion of births to population which has been going on amongst us in recent years; and I have attempted to explain the nature and import of the changes thus necessarily effected in the age constitution of the population:—a change by the way, which in the absence of countervailing influences, would have led to a reduction, instead of an increase in the general death-rate. The average annual birth-rate in the last complete decennium (1871-80), was equal to 42·9 per 1,000 persons living; but since 1880, the rate has continuously fallen, until in 1887 it reached the lowest proportion ever recorded in Salford, namely 34·3 per 1,000. Had the decennial birth-rate of 42·9 obtained throughout that year, the births registered in 1887 would have been more by 1641 than they actually were. The proportion of mortality in 1887 among infants under one year of age, was equal to 19·5 per cent of the births; and at this rate the 1641 additional children would have lost by death 320 of their number: and these deaths added to those which were actually registered during the year, would have raised the aggregate mortality of Salford from 24·0 the uncorrected rate, as it appears in the tables, to 25·5; which is in excess of the life table rate\* by 6·0 in a thousand. The Registrar General has repeatedly shown that owing to the great disparity existing between one town and another with respect to the age and sex constitution of their inhabitants, the recorded death-rates require correction, before they can be justly used for comparing the several towns with one another, in

SECTION I.

State of Public Health end of 1887

Diminution of birth-rate

Its effect on the death-rate

Correction of death-rate

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\**i.e.*, The rate of mortality that would obtain in Salford, if the population of the borough were as healthy as is that of England and Wales.



SECTION I.  
Registrar  
General's correc-  
tion for age-dif-  
ferences of popu-  
lation

regard to the healthiness of their respective populations. He has also published a table which is given at page 32, in which this correction has been made for each of the great towns of England. We see therefore that the population of Salford differs so widely from that of England and Wales generally, with respect to the proportion of persons living at the various stages of life, that our recorded death-rate has to be increased by 2·1 per 1,000, on account of this inherent difference in the population, before it can fairly be compared with the mortality of England and Wales, or with that of the several other towns in the list.

District rates of  
mortality

The great differences obtaining between one town and another, as regards mortality, are well expressed by the Registrar General in the last column of this table, in which the death-rate of England and Wales is represented by 1,000, and that of each town, after correction for age and sex distribution, by the proportional figure. Thus it will be seen on reference to that table, that whilst the mortality of Brighton and Derby was considerably lower last year than that of the country generally, the mortality of Salford showed an excess of nearly forty per cent, whilst other towns in the table indicated a result even less favourable than this. But it is only after careful inquiry as to the health condition of the individual areas which collectively make up the borough, that we obtain a clue to the real significance of our increased death-rate. And on analysis of the general death-rate by the help of appropriate tables,\* we find that it is made up of district rates differing from one another, in certain instances, by as much as 70 per cent. Of the four districts constituting the borough, there is only one, that of Regent Road, in which the death-rate last year was not in excess of the average. In the district of Greengate, the rate of mortality in 1887 was equal to 32·3 per 1,000, or 13 per cent above the average, that of Pendleton was 22·5 or eight per cent above, and that of Broughton 18·4 or four per cent above the average rate recorded in the five years immediately preceding.

Meteorology of  
1887

That there was nothing in the meteorological conditions of last year to occasion this increase in our death-rate, is shown by the fact that in the 27 other great towns of the Registrar General, the steady fall in the death-rate which had begun in 1883, was experienced throughout 1886 and 1887, also without intermission. The jubilee year will long be remembered in these parts as the driest, and in many respects the finest year of the current decade; only 21·3 inches of rain, or 13·5 inches less than the average, having fallen in the course of the year. The annual mean temperature was lower than the decennial average by six tenths of a degree; and the actual readings of the thermometer ranged from the lowest, 24·0° on January 17th, to the highest, 85·2° on the 3rd of July. The mean temperature in January and February differed little from the average, but in March it was below the average by 2·3°. This

\* See table D, page 37.



depression in the March temperature was more fatal than usual to persons in advanced life, but the general death-rate from lung diseases was scarcely affected by it. The months of April and May were colder than usual, but in June and July the mean temperatures were higher than the decennial averages for these months, by  $3.4^{\circ}$  and  $4.3^{\circ}$  respectively. The excessive heat however came too early in the year to seriously affect the diarrhoea mortality, and when September arrived, in which month the death-rate from this complaint is usually so greatly affected by heat, a salutary fall took place in the mean temperature, to the extent of  $3.4^{\circ}$

SECTION I.

Meteorology of 1887

**Prevalence of Epidemic Diseases.**—Although small-pox was so prevalent in Sheffield, during the latter part of 1887, nevertheless four cases only were imported into Salford during the year. Scarlet fever, which had shown excessive incidence in Salford during 1886, was also abnormally prevalent here throughout the year under present notice. As in the former year, so also in the latter, the district which showed the greatest proportion of attacks was that of Broughton, whilst Pendleton, which had suffered less severely than her neighbours in the two preceding years, was affected in the year 1887 to the extent of 6.8 per 1,000 of her population. But the fact in connection with disease prevalence to which I would refer, as of greater significance in a sanitary point of view, than the last mentioned, is the serious increase in the prevalence both of enteric or typhoid fever, and of diphtheria, which characterises the record of last year. In each 100,000 of the Salford population, 181 cases of the former disease, and 41 of the latter were reported during the year. Now it is well known, that these diseases are fostered and spread by those filth-conditions which are ordinarily so prevalent in great centres of population, and which it is the especial function of the Sanitary Authority to remove. Hence it is that the excessive, and especially the continued prevalence of these diseases in a community like ours, is regarded by the sanitarian as a feature of the gravest significance. There appears to be nothing in the climatic conditions of last year, peculiarly favourable to the development of either the one or the other of these diseases; for, from the records of the 28 principal towns of England, we find that neither of these diseases has shown a materially increased fatality last year, as compared with the average, whereas in our own borough the incidence, both of typhoid fever and of diphtheria, has exceeded the average by 14 per cent. Enteric fever showed the greatest proportional prevalence last year, in the districts of Pendleton and Greengate, and the least in Broughton; this latter district however, had the unenviable notoriety of presenting the highest sickness rate from diphtheria. It is a disquieting circumstance that statistics still point to Salford, as being one of the English homes of typhus or gaol fever—a disease, which is of all diseases the most readily preventible; and yet Salford has not been without several reported cases of this pestilence in any year of the last five. We may however be thankful for the

Incidence of miasmatic diseases

Significance of excessive prevalence of enteric fever and diphtheria

Local prevalence of these diseases

Typhus, or gaol fever

## SECTION I.

Typhus fever

fact that most of the cases occurring in 1887 were imported cases, and did not arise in the fever dens, which have so often provided us with typhus patients in the past.

Outbreak of illness at school, traceable to poisoning by sewer gas

In December last, I was permitted, through the courtesy of the practitioner in attendance, to investigate the circumstances of a limited outbreak of febrile disease, which appeared to be clearly due to poisoning by sewer-gas. The patients, ten in number, were pupils at a large school. Their sickness began at about the same date, with shivering, headache, and distaste for food. When I saw them, in consultation, on the 10th of the month, all the boys presented symptoms of derangement of the digestive tract; they had temperatures varying from  $100^{\circ}$  to  $103^{\circ}$ , their faces were flushed, their tongues furred, and their bowels constipated. Considerable anxiety was naturally caused by this outbreak, but happily no serious consequences eventually occurred. On examination of the drainage, it was found that direct communication existed between the house and the sewer, which latter was probably defective. This fault having been rectified, no further sickness occurred.

Measles fatality

Of the common infectious diseases, which are not notifiable under our Local Act, measles is the only one which has shown unusual fatality in 1887; the deaths however, from this disease were equal to a rate of 1.58 per 1,000 of the population, which is more than double the average rate in the preceding five years, and nearly three times the 1887 rate prevailing in the 50 smaller towns of the country. Diarrhœa is a disease which shows, not only in different years, but in different districts in the same year, a very unequal rate of prevalence and of mortality. At page 58 of this report I have inserted a chart which shows the enormous variations in the mortality from diarrhœa, to which the different districts of our borough are subject. The rates are based on the deaths occurring during the last nine years, and may therefore be accepted as showing the normal incidence of diarrhœa fatality in the several areas depicted in the chart.

Diarrhœa chart

Contagious diseases amongst cattle &c.

**Prevalence of Epizootic Diseases.**—Only one outbreak of *pleuro-pneumonia* occurred within the borough in the course of the year 1887. There were but two cows at the farm visited, and only one of these was infected; this was at once killed, and the carcase dealt with according to the regulations of the Privy Council. Swine fever was present in Salford last year, also in a single case only. In this case there were two swine in the sty, but only one was visibly infected: both of them however were slaughtered, for fear that the apparently sound animal, having been in contact with its diseased fellow, might eventually develop the disease. No case of foot and mouth disease has been discovered in Salford during the past year, and no portion of the borough has been declared an “infected area,” under the regulations, in the course of the year. Since the issue of my last report, *rabies* has been declared an “infectious disease” within the meaning of the Act, and conse-

Rabies



quently has been added to the list of contagious diseases coming under the supervision of the Health Department. In five instances during 1887, Inspector Fordham has been called upon to examine dogs suspected to be suffering from *rabies*. In not one of these instances, however, has the Inspector been able to satisfy himself of the presence of this disease, although in several instances *post-mortem* examinations have been made of animals killed on suspicion.

SECTION I.

Epizootic diseases

**Sanitary Progress.**—During the year 1887, a great deal has been *attempted*, and something has been *done*, which may fittingly be referred to under this heading. In the former category we must place the all but successful attempt of the Health Committee to provide themselves with a fever hospital, which would have been worthy of the borough. That they did not eventually succeed in their project, is owing to no want of energy or of perseverance on their part; their failure was due to circumstances over which they had no control, and the Committee and the public alike, are deserving of sympathy for their loss of what would have proved a most eligible site\* for the erection of a fever hospital.

New hospital for infectious disease

In the category of structural sanitary improvements, there is an important item which deserves mention in connection with the history of last year. The culvert for the conveyance of the sewage from Singleton Road and district, the construction of which had been frequently urged upon the Broughton Committee, was begun in the course of last year; and this work when complete, will have the effect of removing a nuisance which has been loudly complained of in recent years, in one of the healthiest districts of the borough.

Culverting of Singleton Brook

In the spring of last year, at the urgent solicitation of Mr. Brydone, H. M. Inspector under the Canal Boats Act, the Health Committee appointed Mr. Rider as an Inspector to exercise supervision over the boats and their crews, plying on those portions of the river and the canal, which are within the limits of the borough. As another item of sanitary progress may certainly be mentioned, the decision of the Committee to apportion the supervision of the smoke nuisance as the sole duty of Mr. Thompson, an Inspector whose time had previously been divided between this duty, and that of the administration of the Food and Drugs Adulteration Act. For several years past I have been importunate in pressing this desirable change on the attention of the Committee, and I am sure that neither the Corporation nor the public, will in the future, have cause to regret its accomplishment.

Appointment of Canal Boats Inspector

Apportionment of smoke abatement to Inspector Thompson, as his sole duty

The duties under the Adulteration Act, which until last year had been performed by Inspector Thompson, have now been relegated to Mr. Rider, whose time will now be fully and I trust

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\* See report on the Bolton Lodge, as a site for a hospital for infectious disease. Appendix, No. II.

SECTION I.  
Sanitary pro-  
gress

profitably occupied with the combined duties which he will henceforth be called upon to fulfil.

Action under  
Rivers Pollution  
Act

The River Irwell Conservancy Committee, have been making satisfactory progress during the year in regard to the important sanitary functions which it is their duty to discharge. Under the direction of the chairman, Mr. Alderman Walmsley, who is also a member of the Health Committee, notices under the Rivers Pollution Act have been served on the principal polluting authorities in the Irwell watershead, and although it has not been possible to insist upon the diversion of the whole of the sewage from the river; nevertheless a great deal has been effected in this direction by means of correspondence between the Committee and the defaulting authorities higher up in the course of the Irwell.

Mr. Alderman Walmsley has recently placed the Corporation and the public under a great obligation, by the issue of an admirable essay on the present position and past history of the pollution question as it effects the Irwell: a subject upon which, both from his long connection with the River Conservancy Committee, and from the sustained interest which he has always taken in the subject—he is peculiarly competent to write.

II. *Observations by the Medical Officer of Health, as to existing conditions injurious to health: together with suggestions by him for the amendment of those conditions.*

SECTION II.  
Conditions inju-  
rious to health

**Matters specially reported to the Health Committee.—**

At each of their fortnightly meetings during the past year, I have reported to the Health Committee on the general and special enquiries made from time to time, as to conditions injuriously affecting the public health, and many of these conditions have already received the required attention; there remain however not a few adverse influences of a more permanent character, which are very difficult to suppress, but which nevertheless exercise a most depressing influence on the health of the community. In previous annual reports, many of these adverse influences have been dwelt upon; but inasmuch as for the most part they still continue in operation, I feel that I have no alternative but to bring them yet again under the notice of the Committee, in the hope that during the coming year, these evil influences may receive the attention which they require and deserve.

Housing of the  
poor

**Unhealthy condition of Labourers' Dwellings.**—A comparatively superficial acquaintance with the housing of our wage earning classes, will suffice to indicate that even at the present day, thousands of working men and their families are living under conditions in which, not only is a fair standard of health unattainable, but in which the observance of the ordinary decencies of civilized life is well nigh impossible.



Some day, perhaps, the wastefulness of the policy will be realized, which permits our labouring classes—the men and women of Salford who are dependent for support on their daily wages—to pass their sleeping hours under conditions which must undermine their health, and lessen their power to do a fair day's work. For the present however this short sighted policy holds general sway in our older neighbourhoods, and as far as I am able to judge, there is no near prospect of the inauguration of a wiser and more humane system.

SECTION II.

Unhealthy dwellings of the wage-earning classes

The intimacy of the relation existing between the sanitary condition of the homes of the people and their health, has long been recognized by the Sanitary Authorities of this borough. My predecessor, Dr. Syson, very shortly after his appointment here as Medical Officer of Health, made it his business to thoroughly imbue the Health Committee with the conviction, that if any improvement was to be effected in the sanitary state of Salford, the condition of the homes of the people, more especially in regard to their drainage and to facility of refuse disposal, must receive unremitting attention at the hands of the Sanitary Authority. Twenty years have elapsed since this advice was first given; and it goes almost without saying, that many and great improvements have taken place in the interval between that time and the present.

I myself have been professionally connected more or less closely with the borough for the last eighteen years, and during that period I have witnessed extensive demolitions and alterations of property; which, although perhaps undertaken for other purposes, have had the effect of materially improving the sanitary condition of certain of the densest parts of the town; opening up confined and noisome courts and alleys, and admitting the light of day to neighbourhoods which the ignorance or the avarice of builders had condemned for ages to darkness and gloom. Notwithstanding this, however, very much still remains to be done, before the dwellings of our wage earners can be held to have even approached a satisfactory condition.

Previous attempts for their amendment

But when is this desirable transformation to be brought about, and by what means? For my own part, when I come to realize the magnitude of the reformer's task, and the powerfulness of the interest concerned in maintaining the present state of things: when I reflect on the backwardness and the half-heartedness of that public opinion which alone has the power to mend matters, I freely confess that I am becoming more and more hopeless of improvement every day that I live. As far as I am aware no effort has been wanting on my own part to expose the wretched condition of our back slums, and I verily believe that the Health Committee are as anxious as I am myself, that something should be done to improve them: but still it remains the fact, that public opinion has not sufficiently advanced in this direction, to sanction such an outlay of money as would be necessary in order to bring about the necessary structural improvements. I can therefore only appeal

Present condition of Salford slums

SECTION II. yet once again for attention to the chart which accompanies my  
 Black spots of sanitary survey of 1884, and to those black spots therein depicted  
 Salford which show how deadly are the conditions of life under which thousands of our working classes have to dwell, and eke out a living.

Revision of  
 Building Bye-  
 laws

But whatever may be the difficulties which the Corporation may encounter in dealing with the ill-built property at present existing, there surely can be no good reason for their sanctioning the perpetuation of these evils in dwellings of prospective construction. The future, at any rate, is under their control: and I therefore look forward, hopefully, to the result of the deliberations of the Sub-Committee, to which such of the existing building bye-laws as have a sanitary bearing, have been referred for careful revision.

Drainage of Old  
 Salford.

**Imperfect condition of the Sewerage.**—The greater part of what is now known as “old Salford” was built long before the borough obtained its Charter of Incorporation. At that period there were few if any sewers of proper construction, and such primitive channels for the conveyance of house slops as were at that time considered requisite, were constructed by each particular builder after his own fashion, and without let or hindrance from bye-laws or regulations of any kind. It follows, therefore, that in Salford, as in most other ancient towns, the soil under-lying much of the older property, is undermined by broken and disjointed lengths of drains, measuring perhaps miles in their aggregate length, drenching the subsoil with liquid ordure, and ending in *culs de sac*, between which and the dwellings above them, occasional communication is established by some migratory rat. The older sewers have been generally found on examination to be water-logged; they are for the most part, of irregular form and gradient, and are constructed of pervious bricks; they contain in many instances bulky deposits of offensive matter, and are thoroughly sewage sodden.

Residents in the neighbourhood of the Irwell know only too well that until very recently, a flood of medium *severity* sufficed to force the river water up the mouths of the sewers, into the cellars; and that this, before returning to the river, deposited in the cellars a large quantity of sludge, which emitted foul and pestiferous gases.

Early attempts  
 for its amend-  
 ment

The condition of the drainage of the older parts of the borough, has exercised the attention of our Sanitary Authority at intervals, from a very early period. On reference to the minutes of the third meeting of the first Health Committee appointed in Salford, I find that on the 23rd November, 1868—just twenty years ago, the Committee had this matter under consideration; and that even at that date, they were so fully alive to the danger of their position, that they forthwith determined to procure trustworthy evidence as to the state of the sewers in the various districts of the borough.



Accordingly in the following year, namely in June 1869, Mr. Bowden, C.E., the then surveyor of the Salford district, presented his report with respect to the condition of the older sewers in the township,\* not less than 181 of which had been examined by him, both as to size and gradient, and also as to the amount of deposit which each sewer contained. After giving particulars of his examination, Mr. Bowden summarises his report with (*inter alia*) the following remark. "It is not too much to say that a very great number of the old sewers are too near the surface, and of too large a sectional area; thereby encouraging the deposition of detritus and filth within them, and turning the whole into a vast cesspool; this is the more to be regretted, as there is not really any engineering difficulty, why the whole, or nearly so, of the sewers in the district should not be self-cleansing."

SECTION II.  
Surveyor's Report on condition of sewers, 1869

On receipt of the Surveyor's report, through the district Highway Committee, the Health Committee appear to have been so impressed with the necessity for immediate action, that they passed a resolution directing the attention of the District Highway Committee, to the "serious evils arising from the state of the sewers, as shown in the report,"—with a view, it would appear, to the adoption of some effective means for their improvement.

The present Health Committee will remember that soon after my appointment here as Medical Officer of Health, I reported to them my own misgivings as to the condition of our older sewers. At intervals in recent years I have recurred to the subject again and again. In the year 1886 however, the borough was favoured with a visit by Dr. Page, H.M. Inspector under the Local Government Board, who had received instructions to include Salford in a list of towns minuted for inspection, as to their local preparedness to deal with an epidemic of cholera, in case that disease chanced to be imported into our midst.

H.M. Inspector's condemnation of sewers, in 1886

As a result of Dr. Page's visit, during which he found it necessary to condemn, amongst other things, certain portions of our sewerage system, the Borough Engineer was instructed to prepare a report on the condition of the sewers, in each of the three districts of the borough. A copy of Mr. Jacob's report, was published as an appendix to my own report in 1886; but the accompanying tabular statements dealing with the size, gradient, and amount of deposit in the various sewers examined, were not printed on account of their length. These valuable documents are however, deposited at this office for reference.

With a view of ascertaining approximately what change has taken place in the sewers of the Salford district within the last twenty years or so, I have taken the liberty of extracting from the reports of Mr. Bowden, the former District Surveyor, and of Mr. Jacob, the present Engineer and Surveyor for the borough, the

Comparison of Surveyor's Reports, 1869 and 1887

\* I have not as yet been able to find the report on the sewers of the other two districts.



SECTION II. following figures, showing the state of the sewers examined in 1868 and in 1887 respectively.

Surveyors' reports on sewers

	Sewers examined in 1868, by John Bowden, Esq., C.E.		Sewers examined in 1887, by Arthur Jacob, Esq., C.E.	
Total number of sewers examined .	181	.....	460	
No deposit .....	47·0%	.....	49·6%	
Containing deposit.....	53·0%	.....	50·4%	
Deposit 1 to 6 inches deep...	40·9%	.....	31·7%	
„ 6 to 12 „ ...	5·5%	.....	16·1%	
„ over 12 „ ...	6·6%	.....	2·6%	

This comparison is of course only a rough one, and must be taken for what it is worth. As far as it goes however, it indicates that in certain respects, and in certain instances, the state of the sewers in 1887 was worse than in 1868: *e.g.*, the percentage of the total sewers which contained, in 1887, from 6 to 12 inches of deposit was 16·1, whilst it was only 5·5 in 1868. In the case however of the sewers containing deposits less than six inches deep, the proportion fell from 40·9% in the former year, to 31·7% in the latter. A considerable reduction has also taken place in the proportion of sewers found to contain a deposit deeper than twelve inches. Assuming the approximate accuracy of these figures, it does not appear that the present state of the sewers in the Salford district differs very materially from their condition twenty years ago.

It is not, of course, for me to indicate how the present state of things should be amended; but I may, I think, properly express the opinion, that sewers which twenty years ago were found to be so faulty as to call for remedy even at that date, and which in the absence of any adequate attempt to reconstruct them, can scarcely be expected to have improved in condition since that time—must be regarded from a sanitary point of view, as a standing menace to the health of the people.

Faulty system of refuse disposal

The tip nuisance

**Excrement Disposal: The Tip Nuisance.**—I do not know that I can usefully add anything here to what I have advanced in previous reports, as to the necessity which exists that the subject of excrement disposal should be grappled with forthwith, as a question vitally affecting the public health. The midden system, still in vogue in Salford and Broughton, has been unsparingly condemned, both by H. M. Inspector on a recent occasion, and by myself; and there is no doubt that it will shortly have to give way to some safer plan. With regard to the question of refuse tipping, I had hope to have been able by this time to congratulate the Committee on the permanent abolition of this nuisance from the borough. I regret, however, to have to announce that this is a consummation for still future attainment.

# VITAL STATISTICS.

## STATISTICAL SUMMARY, 1887.

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**Area.**—The Municipal Borough of Salford—comprising the Townships of Broughton, Pendleton, and Salford, together with a detached portion of Pendlebury—contains an area of 5,170 acres, or rather more than eight square miles.

**Elevation.**—The population of Salford resides at a mean elevation above sea level, of 140 feet, the elevation varying from 85 feet to 250.

**Inhabited Houses.**—There were 37,952 inhabited houses in the Borough at the rate-laying in 1887. At the last census each house was found to contain 5.15 persons.

**Rateable Value.**—The annual rateable value of the borough in 1887 was £766,085. The increase in the rateable value of the borough within the last decade has been equal to 9.1 per cent.

**Population.**—Estimated to the middle of 1887, the population of the borough was 202,732,—namely, 97,332 males, and 105,400 females.

**Density.**—The mean density of the borough = 39.2 persons to an acre. Density of Broughton District = 26.3, Pendleton, = 21.1, Greengate = 121.1, and Regent Road = 77.1.

**Annual rate of Increase of Population.**—Was equal to 2.2 per cent. from 1861—71, and to 4.1 per cent. from 1871—81.

**Marriages.**—1,506 marriages were solemnized in the year 1887. The marriage-rate, *i.e.*, the rate of persons married, was therefore equal to 14.5 per 1000. For statement of marriages and marriage-rates in each of the years 1862 to 1887, see table A, page 28.

**Births.**—The births of 6,956 children were registered during 1887, namely, 3,553 males, and 3,403 females. The annual birth-rate was therefore equal to 34.3 per 1000. 321, or 4.8 per cent. of the births were illegitimate.

**Vaccinations.**—Of the 7,446 children whose births were registered within the twelve months ending midsummer, 1887, 75.4 per cent. had been successfully vaccinated by the end of June, 1887. 0.1 per cent. had been certified to be unsusceptible of vaccination; 12.0 per cent. had died unvaccinated; the vaccination of 4.0 per cent. had been postponed by medical certificate; 6.5 per cent. had removed to other districts; and 2.0 per cent. remained unaccounted for at the end of that month.

**Deaths.**—The deaths of 4,856 persons were registered during 1887, namely, 2,431 males and 2,425 females. The annual death-rate amongst persons of both sexes was therefore equal to 24.0: amongst males it was 25.0, and 23.0 amongst females.

**Estimated Increase of Population,** = 4,500 but the excess of births over deaths was only 2,100.



### III.—VITAL STATISTICS.

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**Estimated Population.**—At the middle of the year 1887, the Borough of Salford—which comprises the townships of Broughton, Salford, and Pendleton—is estimated by *the Medical Officer of Health* to have contained 202,732 persons: namely, 97,332 males, and 105,400 females. The *natural increase* of the population,—*i.e.*, the excess of births over deaths in the course of the year—was 2,100 only; but the estimated *actual increase* amounted to 4,500. According to the Registrar General's returns, the borough contained 218,658 persons in the middle of last year, or nearly sixteen thousand in excess of the local estimate. This difference is a very serious one, inasmuch as it affects our death-rate to the extent of  $7\frac{1}{2}$  per cent., or 1·8 per 1,000 of the population.

In framing estimates of local populations, it is the practice of the Registrar General to assume that the same rate of movement of the population which obtained during the last intercensal period has been maintained during the years which have elapsed since the last census. And, under ordinary circumstances, the Registrar General's method is found to be so reliable that I have felt bound to consider the matter very carefully before venturing to discard it in favour of my own plan. In the year 1883 my suspicions were first aroused as to the Registrar General's probable over-estimate of the population, by the discovery that in place of the usual increase in the births, approximately proportional to the assumed growth of the population, there was actually a falling-off in the number of children born during the year 1883, as compared with the number registered in 1881. In the year 1884, the birth-rate showed a slight tendency to recover; but this was only temporary, for the birth-rate has continued to fall steadily ever since the last-named year, and the marriage-rate since 1882; so that even on the basis of my own estimate of the population, the birth-rate of 1887 is the lowest on record, whilst the marriage-rate of that year is the lowest since 1873. It appears to me, therefore, that the long continued period of commercial depression through which we have been passing, and the consequent decline in the marriage and birth-rates, has produced such a disturbance in the constitution of the Salford population as to make it certain that the annual rate of increase which prevailed during the last decade has by no means been maintained since 1881.

Table A\* shows that the birth-rate, which in the last complete decennium had averaged 42·9 per 1,000, has, from its termination

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\* See page 28.

TABLE

POPULATION, DENSITY, ANNUAL RATES OF BIRTHS, MARRIAGES, AND DEATHS,  
IN EACH OF THE TWENTY-

Year.	POPULATION (estimated to the middle of each year).					DENSITY (persons per acre).					
	Borough.	Regent Road.	Green-gate.	Pendleton.	Brough-ton.	Boro'.	Regent Road.	Green-gate.	Pendle-ton.	Brough-ton.	
Quinquennial Means.	1862-66	109,254	37,406	37,307	23,145	11,405	21'1	35'0	141'8	9'6	8'0
	1867-71	120,693	44,160	36,806	25,710	14 018	23'3	41'4	139'9	10'6	9'8
	1872-76	139,782	53,715	35,294	31,437	19,336	27'0	50'4	134'1	13'0	13'6
	1877-81	165,993	65,379	32,856	39,865	27,893	32'1	61'3	124'9	16'5	19'6
	1882-86	189,643	76,050	31,867	47,152	34,574	36'7	71'4	121'1	19'5	24'2
1862	104,975	34,928	37,458	22,139	10,450	20'3	32'7	142'4	9'2	7'3	
1863	107,075	36,134	37,389	22,636	10,916	20'7	33'9	142'2	9'4	7'7	
1864	109,212	37,374	37,313	23,182	11,393	21'1	35'0	141'8	9'6	8'0	
1865	111,393	38,646	37,231	23,633	11,883	21'6	36'2	141'5	9'8	8'3	
1866	113,614	39,949	37,144	24,136	12,385	22'0	37'4	141'2	10'0	8'7	
1867	115,885	41,294	37,045	24,644	12,902	22'4	38'7	140'8	10'2	9'1	
1868*	118,198	42,674	36,941	25,152	13,431	22'9	40'0	140'4	10'4	9'4	
1869	120,526	44,087	36,823	25,658	13,968	23'3	41'3	140'0	10'6	9'8	
1870	122,965	45,551	36,704	26,177	14,533	23'8	42'7	139'4	10'8	10'2	
1871	125,890	47,195	36,517	26,920	15,258	24'3	44'2	138'8	11'1	10'7	
1872	130,301	49,301	36,145	28,357	16,498	25'2	46'3	137'4	11'7	11'6	
1873*	134,883	51,463	35,747	29,847	17,826	26'1	48'3	135'7	12'4	12'5	
1874	139,618	53,670	35,319	31,386	19,243	27'0	50'3	134'3	13'0	13'5	
1875	144,518	55,921	34,868	32,977	20,752	27'9	52'4	132'6	13'6	14'6	
1876	149,591	58,219	34,393	34,617	22,362	28'9	54'7	130'6	14'3	15'7	
1877	154,842	60,561	33,898	36,308	24,075	29'9	56'8	128'8	15'0	16'9	
1878	160,277	62,945	33,379	38,054	25,899	31'0	59'1	126'9	15'8	18'2	
1879*	165,899	65,371	32,843	39,848	27,837	32'1	61'4	124'9	16'5	19'5	
1880	171,727	67,839	32,291	41,697	29,900	33'2	63'6	122'8	17'2	21'0	
1881	177,220	70,180	31,867	43,418	31,755	34'3	65'7	121'1	17'9	22'3	
1882	181,247	72,084	31,867	44,627	32,669	35'1	67'9	121'1	18'5	22'9	
1883	185,345	74,020	31,867	45,859	33,599	35'8	69'4	121'1	19'0	23'6	
1884*	189,546	76,016	31,867	47,124	34,539	36'6	71'3	121'1	19'5	24'2	
1885	193,843	78,022	31,867	48,413	35,541	37'5	73'1	121'1	20'0	24'9	
1886	198,232	80,107	31,867	49,737	36,521	38'3	75'1	121'1	20'6	25'6	
1887	202,732	82,212	31,867	51,096	37,556	39'2	77'1	121'1	21'1	26'3	

\* In the years 1868, 1873, 1879, and 1884 the facts are those registered in 53 instead of



IN THE BOROUGH OF SALFORD, AND IN ITS FOUR REGISTRATION SUB-DISTRICTS,  
SIX YEARS, 1862-1887.

ANNUAL RATES PER 1,000 OF THE POPULATION.											Year.	
MARRIAGES.	BIRTHS.					DEATHS.						
Registration Districts.	Boro'.	Regent Road.	Green-gate.	Pendle-ton.	Brough-ton.	Boro'.	Regent Road.	Green-gate.	Pendle-ton.	Brough-ton.		
12.2	38.3	37.9	42.9	37.3	26.0	27.1	30.2	30.9	22.4	14.5	1862-66	
14.1	39.5	40.7	43.2	38.3	28.0	28.2	32.1	30.8	24.7	15.6	1867-71	
16.7	43.0	46.3	42.5	39.7	39.7	28.2	32.6	30.1	24.1	19.0	1872-76	
17.1	42.5	44.1	40.9	42.1	41.0	26.1	29.1	28.9	23.0	20.3	1877-81	
15.6	37.1	38.6	38.8	35.6	34.1	23.1	24.8	28.5	20.8	17.5	1882-85	
											} Quinquennial means.	
10.2	39.0	38.7	42.5	39.4	25.9	25.3	29.4	27.8	19.6	14.7		1862
11.7	38.0	37.9	42.0	37.0	26.9	26.0	28.3	29.1	22.5	15.0		1863
12.7	38.6	37.3	44.3	38.2	24.7	26.5	28.7	31.0	21.7	14.6		1864
12.9	37.8	37.3	42.8	36.2	26.4	29.1	32.3	32.8	25.2	14.8		1865
13.4	37.9	38.5	42.8	35.6	25.9	28.8	32.2	33.9	23.0	13.6	1866	
14.3	39.0	40.7	42.2	37.0	28.2	28.2	31.9	31.9	22.8	15.7	1867	
13.3	39.3	38.5	43.5	40.4	27.9	30.5	34.3	33.0	28.7	14.9	1868*	
14.1	38.9	39.1	43.2	38.3	27.6	26.4	29.2	29.2	23.3	15.8	1869	
14.1	39.6	41.7	43.1	36.3	30.3	25.8	30.4	27.3	21.3	15.3	1870	
14.6	40.7	43.6	44.2	39.4	26.2	30.3	34.9	32.4	27.2	16.2	1871	
15.1	41.4	45.3	44.1	35.7	34.0	25.3	28.9	28.8	20.4	15.6	1872	
14.3	41.5	43.7	43.0	40.5	34.1	28.3	32.2	30.1	26.6	16.7	1873*	
16.2	42.1	45.9	40.9	37.3	41.8	28.2	32.6	29.2	24.9	19.5	1874	
17.5	44.4	48.9	41.0	40.9	43.5	29.5	34.8	32.0	23.7	20.6	1875	
20.5	45.5	47.7	43.3	44.1	45.3	29.5	34.5	30.2	24.9	22.4	1876	
19.6	44.4	47.0	40.7	43.1	44.7	26.3	31.8	26.3	21.9	19.6	1877	
17.9	44.7	46.5	42.5	42.9	45.6	27.1	29.8	28.8	23.6	23.2	1878	
15.2	43.0	45.5	40.9	42.5	40.0	26.7	27.5	31.6	24.7	21.5	1879*	
16.6	41.4	41.3	41.6	42.7	39.5	27.9	31.5	33.2	23.3	20.6	1880	
16.3	38.8	40.2	39.0	39.2	35.0	22.6	24.8	24.8	21.6	16.7	1881	
16.7	39.3	41.2	40.3	38.4	35.5	23.5	25.3	29.0	20.9	17.9	1882	
15.7	36.5	38.9	38.1	34.5	32.7	23.1	25.1	28.3	20.9	16.8	1883	
15.6	37.1	38.1	40.1	34.9	35.2	23.3	24.9	27.6	21.4	18.4	1884*	
15.5	36.1	38.1	36.1	34.8	33.3	22.1	23.8	27.6	19.9	16.4	1885	
14.6	36.5	36.8	39.5	35.4	33.6	23.6	25.0	29.8	21.0	18.1	1886	
14.5	34.3	35.7	36.2	33.2	31.2	24.0	24.2	32.3	22.5	18.4	1887	

52 weeks ; corrections have therefore been made in calculating the rates.



SECTION III.  
 Serious decline  
 in birth-rate

down to the present time, shown a marked and an almost continuous decline. The birth-rate began to fall in 1879, during the 53 weeks of which year the 7,240 registered births were equal to a rate of 43·0 per 1,000, as compared with 44·8, the mean rate in the four years immediately preceding. The birth-rate, however, did not seriously decline until the last census year, when it fell suddenly to 38·8,—showing, as compared with the mean rate in the previous decade, a deficit equal to ten per cent. It is worth noting that the fall in the birth-rate had been preceded by a serious depression in the rate of marriages during the years 1878—80.

Death-roll, 1887

**Deaths and Annual Rate of Mortality.**—During the 52 weeks of the year 1887, Salford lost by death 4,856 of her inhabitants. Of the total deaths 4,209 were registered as having taken place within the homes of the people: 561 in hospitals within the borough; and 86 either in the Manchester Royal Infirmary, or in the hospitals of Monsal or of Pendlebury, the two last-named institutions being situated outside the borough.

In addition to these the Salford Registers contain entries of the deaths in Salford hospitals of 19 non-residents, who had been attracted to those institutions from districts outside the borough. These latter deaths are therefore excluded from the corrected death-roll of the borough.\*

Calculated on my own estimate of the Salford population which I believe to have numbered 202,731 at the middle of the year, the annual rate of mortality in 1887 was equal to 24·0 per 1,000 persons living, or 1·8 per 1,000 higher than the Registrar General's computation, which is based on a probably excessive estimate of the population. The annual death rate in Salford, during the first seven years of the current decennium, averaged 23·18 per 1,000, and was in defect of the mean rate in the preceding ten years, by 4·78 per 1,000, or 17 per cent.

**District Mortality.**—At page 37, a table (D) will be found which shows the rate of mortality in each of the four registration districts constituting the borough. The subject of district mortality is also further dealt with at page 16 *ante*.

**Mortality in other parts of the Kingdom.**—The annual rate of mortality in England and Wales during the year 1887 was equal to 18·8 per 1,000 of the estimated population. This is the lowest rate which has prevailed in any year since the commencement of civil registration in 1837!

The death-rate in London during the year 1887 was also the lowest on record, being equal to 19·6 per 1,000 persons living. The death rate in Dublin last year was equal to 30·6, and that of Edinburgh, to 19·8 per 1,000 of their respective populations. In the 28 Great English Towns of the Registrar General, the

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\* The table on page 62 will be found instructive in this connection.

death rate averaged 20·9 per 1,000, which is lower by 1·4 per 1,000 than the corresponding rate in the ten years immediately preceding. Of the 28 Great Towns, only four had a rate in excess of that of our own borough, the remaining towns showing a rate in most cases considerably lower than ours.

SECTION II.

Mortality in other parts of the kingdom

In the 50 other considerable town districts of England which, though not so large as the 28 great towns, nevertheless contain in the aggregate a population of nearly 3 millions, the death-rate last year was 19·0 per 1,000, or 0·2 only in excess of that of the whole of England and Wales. The following table,\* which, with the exception of the *data* for Salford, has been taken from the returns of the Registrar General, shows the true death-rates of the 28 great English towns, corrected for age constitution of their several populations. The Registrar General is of opinion that this correction is necessary, before the several towns can be fairly compared with one another, with respect to the healthiness of their populations. It thus appears, that after making this correction, the recorded Salford rate, instead of 24·0 becomes 26·1 per 1,000 of the population!

**Normal rate of Mortality, male and female.**—Of the 4,856 persons whose deaths were registered in Salford last year, 2,431 were males and 2,425 females. The death-rate at all-ages amongst males was equal to 25·0 per 1,000, and amongst females to 23·0. The normal rate of mortality calculated for each sex, on the basis of the New English Life Table, being 20·5 for males and 18·5 for females, it follows that the recorded Salford Rates in 1887 exceeded the life table rates by 22 and by 24 per cent respectively. The death-rate among *females* was higher last year than in any year since the commencement of the current decennium (1881—90,) and with the exception of 1883, in which year also the death-rate was 25 per 1,000, the same statement is true of the death-rate among *males*. In equal numbers living last year the deaths of males were to those of females as is 109 to 100.

Mortality amongst males and females

**Mortality at different age-groups.**—As in previous years, I submit herewith a table† which furnishes the means of comparing the Salford rates at certain age-groups with the standard or life-table rates at the same ages—in other words, of correcting the Salford rates of mortality for the peculiar age-constitution of the population. In addition to the facts given in previous reports, I have extended the age grouping in the present table so as to include the special ætal periods which have been adopted in the model statistical forms of the Society of Medical Officers of Health. It will therefore be easy to compare the Salford rate of mortality at any age with strictly comparable rates in other towns in which the Society's age-grouping is in vogue.

Amplification of tables of causes of death

In table B the rates of death at the several ages are shown for the year 1887, and also those for each year of the pre-

\* See page 32.

† Table B, on page 33.



RECORDED AND CORRECTED DEATH-RATES PER 1,000 IN 28 GREAT  
TOWNS IN 1887.

Towns in the order of their Corrected Death-rates.	Recorded Death-rate.	Factor for correction for sex and age Distribution.	Corrected Death-rate.	Comparative Mortality Figure.
Columns .....	1	2	3	4
England and Wales .....	18.78	.....	18.78	1000
England and Wales less the 28 Towns .....	17.79	.....	17.40	927
28 Towns .....	20.83	1.0657	22.20	1182
Brighton .....	16.88	1.0296	17.38	925
Derby .....	17.13	1.0402	17.82	949
Norwich .....	20.44	0.9565	19.55	1041
Nottingham .....	18.71	1.0599	19.83	1056
Hull .....	19.25	1.0316	19.86	1058
Portsmouth .....	19.51	1.0301	20.10	1070
Leicester .....	19.52	1.0474	20.45	1089
Sunderland .....	19.72	1.0412	20.53	1093
London .....	19.57	1.0615	20.77	1106
Birmingham .....	19.72	1.0663	21.03	1120
Bristol .....	20.39	1.0351	21.11	1124
Bradford .....	19.93	1.1045	22.01	1172
Wolverhampton .....	21.67	1.0311	22.34	1190
Birkenhead .....	20.99	1.0695	22.45	1195
Leeds .....	21.06	1.0689	22.51	1199
Plymouth .....	22.74	0.9903	22.52	1199
Halifax .....	20.95	1.0864	22.76	1212
Sheffield .....	21.60	1.0754	23.23	1237
Bolton .....	21.31	1.0959	23.35	1243
Cardiff .....	21.92	1.0853	23.79	1267
Huddersfield .....	22.99	1.0982	25.25	1345
Liverpool .....	23.70	1.0971	26.00	1384
Salford .....	23.95	1.0886	26.07	1388
Oldham .....	23.84	1.1097	26.46	1409
Newcastle .....	25.26	1.0583	26.73	1423
Blackburn .....	25.48	1.0898	27.77	1479
Preston .....	27.92	1.0859	30.32	1614
Manchester .....	28.67	1.1143	31.95	1701



TABLE B.

ESTIMATED POPULATION, AND ANNUAL RATES OF MORTALITY, AT ALL AGES, AND AT FIVE GROUPS OF AGES, IN THE FIFTY-TWO WEEKS OF THE YEAR 1887, AND IN EACH YEAR OF THE PRECEDING DECADE:—COMPARED WITH THE CORRESPONDING RATES OF THE NEW ENGLISH LIFE TABLE—FOR PERSONS, MALES AND FEMALES.

	PERSONS		MALES		FEMALES.	
	Estimated Population, 1887.	Deaths 1887.	Estimated Population, 1887.	Deaths, 1887.	Estimated Population, 1887.	Deaths, 1887.
All Ages.....	202,731	4,856	97,331	2,430	105,400	2,426
Under 5 years.....	29,731	2,366	14,840	1,233	14,891	1,133
5-20 years .....	65,536	359	32,466	182	33,070	177
20-40 years .....	65,781	548	31,224	277	34,557	271
40-60 years .....	32,475	788	15,159	411	17,316	377
60 and upwards .....	9,208	795	3,642	327	5,566	468

ANNUAL DEATH-RATES, PER 1,000 LIVING IN 1887, AMONG

	PERSONS.		MALES.		FEMALES.	
	Salford.	New Engl. Life Table.	Salford.	New Engl. Life Table.	Salford.	New Engl. Life Table.
All Ages .....	24'0	19'5	25'0	20'5	23'0	18'5
Under 5 Years .....	79'6	61'0	83'1	65'6	76'0	56'3
5-20 years .....	5'5	4'8	5'6	4'9	5'4	4'7
20-40 years .....	8'3	8'5	8'9	9'0	7'8	8'1
40-60 years .....	24'3	18'3	27'1	20'4	21'8	16'4
60 and upwards .....	86'3	71'9	89'8	75'2	84'1	69'8

ANNUAL RATES OF MORTALITY, TEN YEARS, 1877-86, AND IN 1887.

		1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	Mean 1877 to 1886.	1887.
PERSONS	All Ages,	26'3	27'1	26'7	27'9	22'6	23'5	23'1	23'3	22'1	23'6	24'6	24'0
	Under 5 Years,	87'5	96'2	89'6	102'9	69'6	80'1	73'1	78'2	70'2	77'4	82'5	79'6
	5-20 ...	5'0	6'1	6'1	7'0	5'0	4'5	5'8	5'5	5'0	5'6	5'6	5'5
	20-40 ...	11'4	9'8	9'9	9'7	9'4	9'5	8'9	9'2	9'1	8'6	9'5	8'3
	40-60 ...	27'5	24'7	25'9	24'3	24'5	23'8	24'2	22'4	22'5	24'4	24'4	24'3
	60 and upwards	83'7	84'6	92'5	77'4	83'8	75'9	82'7	79'7	79'8	82'0	82'2	86'3
MALES.	All Ages,	28'5	28'3	28'7	30'0	24'1	24'4	25'0	24'6	23'5	24'4	26'1	25'0
	Under 5 Years,	92'8	100'7	99'4	109'5	74'9	83'3	77'8	85'2	75'6	81'8	88'1	83'1
	5-20 ...	5'1	6'5	6'3	7'3	5'9	4'4	6'0	5'9	5'4	5'7	5'8	5'6
	20-40 ...	13'5	10'3	9'5	10'8	9'8	9'5	9'9	9'0	9'9	8'4	10'1	8'9
	40-60 ...	32'1	25'6	29'0	27'3	27'4	26'7	29'2	23'1	24'1	26'5	27'1	27'1
	60 and upwards	88'0	94'9	105'7	86'1	89'6	81'0	89'2	84'7	87'3	84'8	89'1	89'8
FEMALES.	All Ages,	24'4	25'8	24'8	26'0	21'1	22'7	21'5	22'2	20'8	22'8	23'2	23'0
	Under 5 Years,	82'3	91'8	80'1	96'4	63'7	77'0	68'3	71'1	64'7	73'0	76'8	76'0
	5-20 ...	4'8	5'7	5'9	6'7	4'2	4'6	5'6	5'2	4'6	5'6	5'3	5'4
	20-40 ...	9'5	9'3	10'2	8'8	9'1	9'4	8'0	9'4	8'4	8'7	9'1	7'8
	40-60 ...	23'5	24'0	23'3	21'7	22'0	21'3	19'9	21'8	21'1	22'6	22'1	21'8
	60 and upwards	80'9	77'9	83'8	73'2	79'9	72'4	78'6	72'5	75'0	80'3	77'4	84'1

## SECTION III.

Comparison of  
Salford mortality  
at stated ages,  
with correspond-  
ing rates of Eng-  
lish Life-table

ceding decade. In the year 1887 the recorded death-rate of persons of both sexes at all-ages, was 24·0 per 1,000, and therefore exceeded the life-table rate by 23 per cent; the excess in the previous decennium having been 26 per cent. The child death-rate—or rate of mortality among children under 5 years—was equal last year to 79·6 per 1,000 living at that age, *i.e.*, it was 30 per cent higher than the life-table rate. The excess in the preceding decennium having been equal to 35 per cent. The fluctuations from year to year in the child death-rate are here shown to be considerable; but the difference is even more striking when the current district rates of child-mortality are compared with one another. Thus, column 2 at the foot of table D\* shows that in the year 1887 the rate varied locally from 62·8 in the district of Broughton to 100·7 in that of Greengate, and column 1 of the same table shows that a similiar variation attaches to the district rates in recent previous years.

Table E, on page 39, shows that at the next age-group but one, viz., that from 20—40, the 1887 rates were lower than the average rates in the years 1881—85, and these again, lower than those in the preceding quinquennium. But at all ages over 40 years the rates of last year were higher than the average in the immediately preceding five years.

Deaths of infants  
under one year,  
in each 1,000  
births

**Infantile mortality.**—Measured by the ratio which the deaths under one year of age bear to the registered births, infantile mortality in Salford was equal to 195 per 1,000 last year, as compared with 181 the average rate in the preceding five years. In the second, third, and fourth quarters of the year 1887, the proportion of infant mortality exceeded the average, but in the first quarter it was lower than in the corresponding periods of the previous five years. The rate also varied considerably in the several districts of the borough, being lowest, namely 166 per 1,000 in Broughton, and ranging upwards to 199 in Regent Road and 217 in Greengate. The rate of infant mortality last year in England and Wales did not exceed 145 per 1,000 births.

It was 153 in the 50 second rate towns of the Registrar General, and 168 in the 28 great English towns. In Edinburgh it was 138, and 201 in Dublin.

In the four dis-  
tricts of Salford

The following table gives the rate of infant mortality during 1887, from the principal diseases incidental to children, side by side with the average rates in the years 1877-86. The corresponding rates for 1887 are also given for the several districts of the borough.

\* See page 37.



TABLE C.

BIRTHS IN THE BOROUGH OF SALFORD AND IN ITS FOUR REGISTRATION SUB-DISTRICTS—DISTINGUISHING LEGITIMATE FROM ILLEGITIMATE BIRTHS; ALSO THE PROPORTION OF MORTALITY AMONG LEGITIMATE AND ILLEGITIMATE INFANTS UNDER ONE YEAR OLD.

IN 52 WEEKS OF THE YEAR 1887.

	Births.		Percentage of Illegitimate Births to Total Births.	Deaths under One Year.		Proportion of Deaths under One Year per 1,000 Births.		
	Total.	Illegit.		Total.	Illegit.	Total.	Legit.	Illegit.
<b>Borough.....</b>	<b>6956</b>	<b>321</b>	<b>4·6</b>	<b>1357</b>	<b>119</b>	<b>195</b>	<b>187</b>	<b>371</b>
Regent Road District ...	2933	133	4·5	587	52	199	191	391
Greengate           ,,	1154	62	5·4	251	16	217	215	258
Pendleton           ,,	1697	87	5·1	324	42	191	175	483
Broughton           ,,	1172	39	3·3	195	9	166	164	231

CORRESPONDING DATA FOR THE EIGHT YEARS 1879-1886.

<b>Borough.....</b>	<b>56492</b>	<b>2506</b>	<b>4·4</b>	<b>10127</b>	<b>918</b>	<b>179</b>	<b>171</b>	<b>366</b>
Regent Road District ...	23365	1140	4·9	4470	413	191	183	362
Greengate           ,,	10156	503	5·0	1980	201	195	184	400
Pendleton           ,,	13606	549	4·0	2273	184	167	160	335
Broughton           ,,	9365	314	3·4	1404	120	150	142	382



SECTION III. RATES OF MORTALITY UNDER ONE YEAR PER 1,000 BIRTHS.

Infantile mortality from various causes, in districts	Borough Total.		Registration Sub-Districts, 1887.			
	1877-86.	1887.	Regent Road	Greengate.	Pendleton.	Broughton.
All Causes .....	178	195	199	218	191	166
Ten Causes :—						
Measles .....	3·7	10·1	10·6	14·7	3·5	13·7
Scarlet Fever .....	1·1	0·9	0·7	1·7	0·6	0·9
Whooping Cough ...	7·5	3·3	1·7	2·6	7·1	2·6
Diarrhoea.....	26·1	36·3	40·2	39·9	31·8	29·0
Lung Diseases .....	32·2	31·1	25·6	32·9	41·3	28·2
Tubercular Diseases..	14·5	15·3	15·0	13·9	20·0	10·2
Premature Birth .....	14·3	17·8	19·4	16·5	23·6	6·8
Brain Disease and } Convulsions .. }	30·4	28·3	31·4	32·9	21·8	25·6
Found Dead in Bed...	...	3·5	3·8	6·1	2·9	0·9
Syphilis .....	4·8	3·5	2·0	8·7	2·9	2·6

Deaths of illegitimate infants

**Illegitimacy in relation to Infantile Mortality.**—Of the 6,956 children born in the year under notice, 321, or 4·6 per cent, were illegitimate, as compared with an average of 4·4 per cent in the preceding eight years. The proportion of illegitimate to total births is therefore still increasing in Salford. As in past years, the ratio of illegitimacy was highest last year in the district of Greengate, but in 1887 Pendleton approached Greengate very closely in this particular. Of the 321 children illegitimately born last year, not less than 119, or 37·1 per cent, died before completing their first year of life. In the district of Broughton, the deaths of illegitimate infants were equal to 23 per cent of the illegitimate births, whereas, in Pendleton, the proportion reached almost half. Amongst children born in wedlock, the mortality was equal to 19 per cent of the legitimate births. This proportion, although much too high, is only half that which obtained amongst illegitimate children.

Infantile mortality in great English towns

In the table at foot,\* the mean rates of infant mortality are given in each of the 28 great English towns in 1887, and also for comparison with these, the average rates in the preceding ten

*Rate of mortality amongst infants under one year per 1,000 births.			
Ten years,		Ten years,	
1877-86.	1887.	1877-86.	1887.
Birkenhead .....	137	Birmingham .....	164
Portsmouth .....	138	Oldham .....	169
Derby .....	143	Huddersfield .....	169
Bristol .....	145	Cardiff .....	169
Brighton .....	148	Leeds .....	172
London .....	152	Norwich .....	173
Plymouth .....	157	Manchester .....	174
Sunderland .....	157	Nottingham .....	175
Halifax .....	159	Bolton .....	177
Wolverhampton ..	159	Salford .....	178
Newcastle .....	160	Liverpool .....	183
Hull .....	161	Blackburn.....	187
Bradford .....	162	Leicester .....	201
Sheffield .....	163	Preston .....	218
			176
			181
			172
			172
			158
			191
			170
			171
			195
			186
			201
			209
			214

**TABLE D.**

**ANALYSIS OF MORTALITY—ANNUAL RATES PER 1000 LIVING IN EACH OF THE REGISTRATION SUB-DISTRICTS OF SALFORD IN THE 52 WEEKS OF THE YEAR 1887 AND THE AVERAGE ANNUAL RATES IN THE PREVIOUS QUINQUENNIUM 1882—1886—INSTITUTION DEATHS DISTRIBUTED**

REGISTRATION SUB-DISTRICTS	ANNUAL RATE OF MORTALITY AT ALL AGES FROM ALL CAUSES AND FROM FIVE CLASSES OF DISEASE.											
	All Causes		Zymotic		Constitutional		Developmental		Local.		Other Classes.	
	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887
REGENT RD	25.2	24.2	5.0	5.1	4.3	3.7	1.6	1.8	11.3	11.1	2.6	2.4
GREENGATE	28.5	32.3	5.2	7.9	5.3	5.8	1.5	1.5	14.0	13.9	2.4	3.2
PENDLETON	20.9	22.5	3.7	4.0	4.4	4.0	1.3	1.7	9.8	11.3	1.7	1.5
BROUGHTON	17.7	18.4	3.3	4.4	3.5	2.8	1.1	1.0	8.5	8.9	1.4	1.3
BOROUGH...	23.1	24.0	4.4	5.2	4.4	3.9	1.4	1.6	10.8	11.2	2.1	2.1

REGISTRATION SUB-DISTRICTS	FROM ALL CAUSES				AT ALL AGES FROM							
	Under 1 Year per 1000 Births.		Over 60 years.		Six Miasmatics.		Diarrhœa.		*Acute Lung Diseases.		Phthisis	
	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887
REGENT RD	193	199	79.7	86.8	2.7	3.1	1.8	1.8	5.2	4.9	2.5	2.0
GREENGATE	202	217	91.7	99.6	2.8	5.0	1.8	2.4	6.6	7.3	3.2	3.4
PENDLETON	168	191	74.7	87.0	2.1	2.4	1.3	1.3	4.3	5.3	2.6	2.1
BROUGHTON	147	166	74.9	75.9	1.9	2.2	1.1	0.9	3.5	2.7	1.7	1.0
BOROUGH...	181	195	79.8	86.4	2.4	3.2	1.5	1.7	4.9	5.1	2.5	2.1

REGISTRATION SUB-DISTRICTS	ANNUAL RATE OF MORTALITY UNDER FIVE YEARS PER 1000 LIVING AT THAT AGE.											
	All Causes.		Nervous Diseases.		Six Miasmatics.		Diarrhœa.		*Acute Lung Diseases.		Tubercular Disease.	
	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887	Five Years 1882-86.	1887
REGENT RD	83.2	81.7	11.3	10.5	13.8	16.3	11.3	11.9	15.4	14.1	7.1	5.6
GREENGATE	93.2	100.7	13.7	12.3	15.5	26.3	12.2	14.3	17.5	18.9	9.8	8.5
PENDLETON	67.4	72.0	9.8	8.6	10.6	11.1	7.9	8.5	13.6	18.2	9.0	7.7
BROUGHTON	56.2	62.8	7.1	8.0	8.5	14.9	7.2	7.7	12.1	12.7	5.6	5.2
BOROUGH...	76.0	79.6	10.5	9.7	12.3	16.2	9.9	10.6	14.7	15.6	7.8	6.5

\*True Croup is not included amongst "Acute Lung Diseases" in this table, although it forms part of the Sub-order "Respiratory diseases" of the Registrar General. It is however included in the "Local Class" of diseases at the head of the table.



SECTION III. years. The towns are arranged in the order of their mean  
 Infantile mortal- decennial rates In the ten years, 1877-86, the mean rate in the  
 ity 28 great English towns was 161 per 1,000 births, but in the year  
 1887 it rose to 168.

**Senile Mortality.**—Of the 4,856 persons, at all ages, whose deaths were registered in Salford during last year, 795, or 16 per cent. were returned by the registrars as having either attained, or exceeded, the age of 60 years. These deaths are equal to a rate of 86·3 per 1,000 of the estimated population at this age—a rate which exceeds the average senile rate of mortality in the preceding five years, by 6·4 per 1,000.\*

New classifica-  
 tion of death-  
 causes

**Classification of Causes of Death.**—As in previous years, I have arranged the deaths occurring in the year 1887 in four main groups, according to the classification proposed by the Royal College of Physicians, and adopted by the Society of Medical Officers of Health. Of the 4,856 deaths, from all causes, registered last year, 1,046 deaths, or 21 per cent, belonged to the zymotic class of diseases, 795, or 16 per cent, to the constitutional, 322, or 7 per cent, to the developmental, and 2,271, or 47 per cent, to the local class of diseases, whilst 422 deaths, or nine per cent of the total deaths, remain undistributed. These undistributed deaths are, mainly, such as have been returned as due either to violence, or to some ill-defined cause, such as “sudden death,” “found dead in bed,” “dropsy,” (without specification of cause, or of part affected), “atrophy,” “marasmus,” “natural causes,” &c., &c. Deaths so returned are obviously useless for any scientific purpose: they are therefore left undistributed.

Classification of  
 mortality in dis-  
 tricts

The new table D, on page 37, which was inserted for the first time in my 1885 report, gives, for the several districts of Salford, the rate of mortality from all causes, and from the principal classes of disease; in the middle section of the table, the district rates of infantile and of senile mortality are shown, and also the rates, at all ages, from certain important death causes: whilst, in the lower section of the table are given the district rates of mortality amongst children under five years per 1,000 living at that age-period. It will also be noted, that throughout the table the several death-rates in 1887 are compared with the corresponding average rates in the five years immediately preceding that year.

Table E, which relates to the borough as a whole, and not to its constituent districts, gives a comparative view of the annual rates of mortality from certain prevalent diseases, at stated age-groups, in the year 1887, and the mean rates in the two quinquennia, 1871-80 and 1881-85.

Table F, which is an amplification of the table thus designated in previous reports, is introduced here for the first

\* See Table D, page 37



TABLE E.

AVERAGE ANNUAL RATES OF MORTALITY AT CERTAIN AGE-GROUPS IN TWO SUCCESSIVE QUINQUENNIA, AND THE ANNUAL RATES IN THE YEAR 1887.

CAUSES OF DEATH.	All Ages.			Under 5 years.			5-20 years.		
	Quinquennial means.		Year.	Quinquennial means.		Year.	Quinquennial means.		Year.
	1876-80.	1881-85.		1876-80.	1881-85.		1876-80.	1881-85.	
All Causes.....	27·6	22·9	24·0	95·4	74·2	79·5	6·4	5·2	5·5
Smallpox .....	0·5	...	...	1·0	0·1	...	0·5	...	...
Measles .....	0·8	0·7	1·6	5·1	4·5	10·2	0·1	0·1	0·2
Scarlatina .....	1·2	0·5	0·8	5·8	2·4	3·2	1·0	0·4	0·9
Diphtheria.....	0·1	0·1	0·1	0·5	0·5	0·5	0·1	0·1	0·1
Croup (not spasmodic) .....	0·2	0·2	0·2	1·5	1·4	1·4	0·1	0·1	0·1
Whooping Cough.....	0·9	0·7	0·3	6·2	4·8	2·1	0·1	0·1	...
Cont'd Fevers. } Typhus .....	0·1	0·1	...	...	...	...	...	...	...
} Enteric.....	0·4	0·3	0·4	0·8	0·3	0·2	0·4	0·4	0·6
} Continued .....	0·1	...	...	0·4	0·1	...	0·1	...	...
Diarrhœa and Dysentery.....	1·8	1·3	1·7	11·2	8·4	10·6	0·1	...	...
Puerperal Fever .....	0·1	0·1	...	...	...	...	...	...	...
Other Zymotics.....	0·6	0·4	0·3	3·0	1·9	1·2	0·1	0·1	...
Phthisis .....	2·7	2·5	2·1	0·7	1·0	0·6	1·2	1·1	0·9
Other Tubercular Diseases .....	1·2	1·1	1·2	6·9	6·2	5·9	0·3	0·4	0·4
Diseases of } Brain .....	3·4	3·0	3·0	13·9	10·9	9·7	0·5	0·6	0·5
} Heart .....	1·0	1·1	1·2	0·2	0·2	0·1	0·2	0·3	0·2
} Lungs .....	6·0	5·0	5·1	19·4	14·7	15·6	0·6	0·5	0·6
} Digestive System .....	1·0	0·9	0·8	1·6	2·1	2·1	0·2	0·2	0·2
Other Diseases.....	5·5	4·9	5·2	17·2	14·7	16·1	0·8	0·8	0·7

CAUSES OF DEATH.	20-40 years.			40-60 years.			Over 60 years.		
	Quinquennial means.		Year.	Quinquennial means.		Year.	Quinquennial means.		Year.
	1876-80.	1881-85.		1876-80.	1881-85.		1876-80.	1881-85.	
All Causes.....	10·6	9·2	8·3	26·0	23·5	24·3	85·5	79·9	86·3
Smallpox .....	0·6	0·1	...	0·3	...	...	0·1	...	...
Measles .....	...	...	...	...	...	...	...	...	...
Scarlatina .....	0·1	...	...	...	...	...	...	...	...
Diphtheria.....	...	...	...	...	...	...	...	...	...
Croup (not spasmodic) .....	...	...	...	...	...	...	...	...	...
Whooping Cough.....	...	...	...	...	...	...	...	...	...
Cont'd Fevers. } Typhus .....	0·1	0·1	...	0·1	0·1	...	...	0·1	...
} Enteric.....	0·3	0·3	0·4	0·3	0·3	0·2	0·5	0·1	...
} Continued .....	...	...	...	0·1	...	...	0·3	0·1	...
Diarrhœa and Dysentery.....	0·1	...	...	0·2	0·1	0·2	1·7	1·4	1·5
Puerperal Fever .....	0·1	0·2	0·1	...	...	...	...	...	...
Other Zymotics.....	0·1	0·1	0·1	0·3	0·3	0·2	0·8	0·5	0·4
Phthisis .....	4·3	3·9	3·3	4·9	4·1	4·2	1·9	1·6	1·4
Other Tubercular Diseases.....	0·1	0·1	...	0·1	0·1	...	0·1	...	...
Diseases of } Brain .....	0·6	0·6	0·7	2·8	2·8	2·9	11·9	13·6	15·3
} Heart .....	0·7	0·7	0·7	2·4	2·5	3·5	6·5	7·5	7·9
} Lungs .....	1·3	1·1	1·0	7·6	6·8	6·3	29·5	26·4	29·3
} Digestive System .....	0·6	0·4	0·4	1·8	1·5	1·4	4·3	3·9	2·9
Other Diseases .....	1·6	1·6	1·6	5·1	4·9	5·4	27·9	24·7	27·6

SECTION III. time. The table is one which is known as No. III. of the model  
Classification of forms issued by the Society of Medical Officers of Health.  
causes of death

It will be observed, that the age grouping in the present table differs from that in the corresponding table of my previous reports; the decennial having replaced the vicennial system hitherto adopted by me. I have taken care, however, by the addition of columns of figures, to retain the power of comparison between the ætal periods of the present table F, and those of the corresponding tables in previous reports.

Ill-defined causes  
of death

In this amplified table (F), my medical brethren will recognise a means of considerably improving the classification of death-causes in Salford: and I trust that they will oblige me by so filling up their certificates as to bring each recorded death definitely within one or other of the categories in this improved classification, which, as I have before said, is that of the Royal College of Physicians. It will easily be seen, for instance, that the local class of diseases has been considerably amplified, especially in regard to affections of the nervous system. Diseases of the circulatory system, also, which in the old tables were all included under the single term “heart diseases,” are here differentiated under seven headings. Diseases of the respiratory and of the digestive system likewise are considerably extended, and in class VI, the various forms of nephritis, and of Bright’s disease, are separated from “other diseases of the urinary system,” under which term all the diseases of this kind were formally included without distinction. But it is in the case of the deaths comprised under class VIII.—the ill defined causes—that I am most hopeful of improvement, under the new arrangement. It would be well if this class could be “improved away” altogether. It would not be difficult, for instance, to refer to the organs affected, the deaths indefinitely assigned to ulcer, mortification, tumour, abscess, hæmorrhage, &c., and the vague term, dropsy, might easily be qualified by a statement of its cause, *i.e.*, whether it is cardiac, renal, hepatic, or otherwise in its origin.

Amount of life  
saved, and  
amount lost, in  
1887

The following statement, which is deduced from columns 11 and 12 of table F1, on page 45, indicates the diseases which have shown, respectively, a greater or a less fatality in 1887, as compared with the decennial average numbers, corrected for increase of population. In other words, it shows the amount of life saved, and the amount lost, under the several headings in 1887, as compared with the mean annual mortality in the previous ten years.

Cause of Death.	Diminution in 1887.	Excess in 1887.
Small-pox .....	14 .....	—
Measles .....	— .....	187
Scarlet fever .....	6 .....	—
Carried forward .....	20 .....	187



TABLE F.

DEATHS REGISTERED IN SALFORD, FROM ALL CAUSES DURING THE YEAR 1887.

DISEASES.	AGES IN YEARS.														TOTAL.	20 to 40	40 to 60	60 and upwards
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards.					
I. SPEC: FEBRILE, OR ZY- MOTIC DISEASES .....	384	449	89	19	21	12	20	17	12	10	10	3	...	1046	45	21	18	
II. PARASITIC DISEASES .....	8	1	...	...	...	...	...	...	...	...	...	...	...	9	...	...	...	
III. DIETIC DISEASES .....	...	...	...	...	...	1	3	2	8	2	1	...	...	17	5	10	2	
IV. CONSTITUTIONAL DISEASES	112	93	31	13	52	64	119	122	113	49	23	3	1	795	239	207	48	
V. DEVELOPMENTAL DIS: ...	145	2	...	...	...	...	...	...	...	11	89	60	15	322	...	2	173	
VI. LOCAL DISEASES.....	471	410	68	21	33	45	101	187	257	308	266	98	6	2271	235	500	533	
VII. DEATHS FROM VIOLENCE.	33	21	5	3	3	3	11	13	26	12	5	5	...	140	18	42	15	
VIII. DEATHS FROM ILL-DEFIN- ED & NOT SPECIFIED CAUSES.	202	35	...	1	...	...	1	5	5	2	4	1	...	256	6	6	6	
TOTALS.....	1355	1011	193	57	109	125	255	346	421	394	398	170	22	4856	548	788	795	
I. - Zymotic Diseases.																		
1. MIASMATIC DISEASES.																		
Sm: Pox { Vaccinated .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Unvaccinated .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
No Statement .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Measles .....	70	234	15	...	1	...	...	...	...	...	...	...	...	320	...	...	...	
Scarlet Fever .....	6	90	53	5	...	...	...	1	...	...	...	...	...	155	1	...	...	
Typhus Fever .....	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	...	...	
Whooping Cough .....	23	38	3	...	...	...	...	...	...	...	...	...	...	64	...	...	...	
Diphtheria .....	1	14	3	1	...	...	1	1	...	...	...	...	...	21	1	1	...	
Simp: Contd: Fever.....	...	...	...	1	1	...	...	...	...	...	...	...	...	2	...	...	...	
Enteric Fever .....	...	7	11	12	18	9	10	9	6	...	...	...	...	82	28	6	...	
Miasm: Dis: (other).....	...	1	1	...	...	...	...	...	...	...	...	...	...	2	...	...	...	
2. DIARRHŒAL DISEASES.																		
Simp: Cholera .....	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	...	...	
Diarrhœa, Dysentery .....	252	63	3	...	...	...	1	...	4	6	8	2	...	339	1	6	14	
3. MALARIAL DISEASES.																		
Remittent Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Ague .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
4. ZOOGENOUS DISEASES.																		
Cow Pox, Effects of Vaccin: ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Hydroph: Gland: Splenic Fev:	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	1	...	
5. VENEREAL DISEASES.																		
Syphilis .....	24	...	...	...	...	...	...	1	1	...	1	...	...	27	1	1	1	
Gonorrhœa, Str: Ureth: .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
6. SEPTIC DISEASES.																		
Erysipelas .....	5	1	...	...	...	...	2	1	1	2	1	1	...	14	2	4	2	
Pyæmia Septicæmia .....	3	1	...	...	...	1	...	2	...	2	...	...	...	9	2	2	1	
Puerperal Fever.....	...	...	...	...	1	2	4	1	...	...	...	...	...	8	7	...	...	
II. - Parasitic Diseases.																		
Veg: Par: D: (Thrush) .....	8	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...	
An: Par: D: Wrm: Hydtd: .....	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	
III. - Dietic Diseases.																		
Starv: Want Breast Milk .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Scurvy .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Chr: Alcoholism .....	...	...	...	...	...	...	3	2	6	2	1	...	...	14	4	8	2	
Delir: Trem: .....	...	...	...	...	...	1	...	...	2	...	...	...	...	3	1	2	...	





DISEASES.	AGES IN YEARS.													TOTAL.	20 to 40	40 to 60	60 and upwards.
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards.				
7. DIS: OF GLAND-LIKE ORG: OF UNCERTAIN USE.																	
Bronchocele, Addison's Dis:...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...
8. DIS: OF URINARY SYSTEM.																	
Nephritis .....	1	6	3	...	...	...	...	1	2	3	...	...	...	16	...	4	2
Bright's Dis: Albuminuria ...	...	2	...	...	1	...	3	10	8	11	1	2	...	38	5	21	9
Bladder, Prost: (Dis: of).....	...	...	...	...	...	...	2	2	1	...	4	1	...	10	2	3	5
Urinary Org: (Dis: of) .....	1	...	1	...	...	...	1	3	...	...	2	...	...	8	3	1	2
9. DIS: OF REPRODUCTIVE SYS:																	
A. Organs of Generation.																	
Male Organs .....	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	1	...
Female Organs .....	...	1	...	...	2	...	...	1	3	3	2	...	...	12	...	6	3
B. of Parturition.																	
Abortion, Miscarriage .....	...	...	...	...	...	1	1	...	...	...	...	...	...	2	2	...	...
Puerperal Convulsions .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plac: Præv: Flooding .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Childbirth (other Accid: of)...	...	...	...	...	1	4	20	8	...	...	...	...	...	33	31	1	...
10. DIS: OF BONES & JOINTS.																	
Caries, Necrosis .....	...	1	1	4	2	1	1	...	...	...	...	...	...	10	2	...	...
Arthr: Ost: Periostitis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bone, Joint, (Diseases of).....	...	1	1	...	1	...	...	2	1	...	...	...	...	6	2	1	...
11. DIS: OF INTEGUMENT: SYS:																	
Carbuncle, Phleg: Cellulitis..	...	1	...	...	...	...	1	...	1	...	...	...	...	3	1	1	...
Integ: Diseases (other).....	3	1	...	...	...	...	...	...	2	3	...	...	...	9	...	4	1
VII.—Deaths from Violence.																	
1. ACCIDENT OR NEGLIGENCE.																	
Fract: and Contusions .....	2	9	...	2	2	1	3	6	12	7	4	3	...	51	6	20	10
Gunshot Wounds .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cut, Stab .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burn, Scald .....	3	6	1	...	1	...	4	...	1	2	1	...	...	19	4	2	2
Poison .....	...	...	...	...	...	...	...	...	2	...	...	...	...	2	...	2	...
Drowning .....	1	3	4	...	...	1	1	...	4	...	...	1	...	15	2	4	1
Suffocation .....	26	2	...	...	...	...	...	1	1	1	...	...	...	31	...	3	...
Otherwise.....	...	...	...	1	...	...	...	1	1	1	...	1	...	5	1	1	2
2. HOMICIDE.																	
Manslaughter .....	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Murder .....	1	...	...	...	...	...	...	1	...	...	...	...	...	2	...	1	...
3. SUICIDE.																	
Gunshot Wound .....	...	...	...	...	...	...	2	...	...	...	...	...	...	2	2	...	...
Cut, Stab .....	...	...	...	...	...	1	...	2	1	...	...	...	...	4	1	3	...
Poison .....	...	...	...	...	...	...	1	...	1	1	...	...	...	3	1	2	...
Drowning .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hanging .....	...	...	...	...	...	...	...	2	3	...	...	...	...	5	1	4	...
Otherwise .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. EXECUTION.																	
Hanging .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VIII.—Deaths from Ill- defined and not specified causes.																	
Dropsy .....	...	1	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...
Atrophy, Debility .....	176	29	...	...	...	...	...	1	1	...	1	1	...	209	1	1	2
Mortification .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tumour.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Abscess.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hæmorrhage .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sudden Death.....	...	1	...	...	...	...	...	1	2	1	2	...	...	7	1	3	2
Found Dead in Bed .....	24	1	...	...	...	...	...	1	1	1	...	...	...	28	1	1	1
Not Specified, Ill-defined .....	2	3	...	...	...	...	1	2	1	...	1	...	...	10	3	1	1



SUMMARY OF TABLE F, 1887.

	No. of Deaths.
<b>I.—Specific Febrile, or Zymotic Diseases:</b>	
1. Miasmatic Diseases .....	647
2. Diarrhoeal „ .....	340
3. Malarial „ .....	...
4. Zoogenous „ .....	1
5. Venereal „ .....	27
6. Septic „ .....	31
<b>II.—Parasitic Diseases .....</b>	<b>9</b>
<b>III.—Dietic Diseases.....</b>	<b>17</b>
<b>IV.—Constitutional Diseases .....</b>	<b>795</b>
<b>V.—Developmental Diseases .....</b>	<b>322</b>
<b>VI.—Local Diseases :</b>	
1. Diseases of Nervous System.....	604
2. Diseases of Organs of Special Sense .....	5
3. Diseases of Circulatory System .....	251
4. Diseases of Respiratory System .....	1090
5. Diseases of Digestive System .....	170
6. Diseases of Lymphatic System .....	2
7. Diseases of Gland-like Organs of uncertain use .....	1
8. Diseases of Urinary System.....	72
9. Diseases of Reproductive System :	
(a) Diseases of Organs of Generation.....	13
(b) Diseases of Parturition .....	35
10. Diseases of Bones and Joints .....	16
11. Diseases of Integumentary System.....	12
<b>VII.—Violence :</b>	
1. Accident or Negligence.....	123
2. Homicide .....	3
3. Suicide .....	14
4. Execution .....	...
<b>VIII.—Ill-defined and not specified causes .....</b>	<b>256</b>
<b>TOTAL .....</b>	<b>4856</b>



**TABLE F1.**

CAUSES OF DEATH REGISTERED IN EACH OF THE TEN YEARS 1877-86,  
AND THE AVERAGE DECENNIAL NUMBER, CORRECTED FOR  
INCREASE OF POPULATION.

	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	Corr'ted Average
All Causes .....	4079	4336	4495	4799	4000	4265	4287	4486	4283	4672	4980
Small Pox .....	93	1	...	...	7	18	...	...	1	...	14
Measles .....	137	76	139	134	38	167	156	100	178	47	133
Scarlet Fever .....	119	185	203	279	84	81	82	144	62	169	161
Typhus .....	8	12	4	20	7	12	3	10	10	1	10
Whooping Cough .....	102	132	144	219	160	152	105	131	129	127	160
Diphtheria .....	13	19	24	22	20	18	24	22	17	12	22
Ill-defined Fever .....	19	22	6	26	9	5	6	8	5	5	13
Enteric Fever .....	83	82	52	84	42	46	64	81	48	61	73
Simple Cholera .....	...	4	1	3	4	3	...	3	2	8	3
Diarrhoea, Dysent : .....	207	340	141	477	160	237	210	374	244	393	317
Venereal Affections .....	39	45	41	33	21	38	56	53	41	35	46
Erysipelas .....	22	11	12	14	15	25	19	15	21	7	18
Pyæmia .....	9	5	3	...	4	7	9	6	1	3	6
Puerperal Fever .....	3	4	7	10	15	13	9	8	11	7	10
Other Zymotics .....	39	60	38	31	11	4	6	5	4	3	23
Parasitic Diseases .....	...	...	...	...	2	2	4	4	5	7	2
Dietic Dis : Intemp : .....	11	13	13	7	22	26	17	15	21	25	19
Rheumatic Fever .....	34	23	17	14	6	11	15	19	13	20	19
Cancer .....	81	80	66	74	89	77	73	93	96	90	93
Tabes Mesenterica .....	64	75	66	91	76	98	82	74	84	119	95
Tubercul : Mening : .....	68	87	86	90	75	82	96	93	95	95	99
Phthisis .....	413	434	480	459	451	437	489	477	487	489	526
Scrofula .....	39	29	59	33	16	19	27	31	41	70	41
Constit : Dis : (other) .....	16	19	17	17	27	23	33	40	28	23	27
Prem : Birth .....	55	64	91	85	117	106	97	121	115	144	113
Devel Dis : and Cong : Def : ..	20	11	28	14	9	19	20	20	25	20	22
Old Age .....	114	95	122	143	108	132	144	119	123	145	141
Apoplexy and Paralysis .....	105	99	121	117	150	150	182	160	161	161	161
Epilepsy .....	18	14	23	22	18	18	27	16	18	16	22
Convulsions .....	238	258	298	246	197	269	171	178	190	189	254
Brain and Nerv ; Dis : (other) .	152	196	173	170	178	212	188	180	162	161	202
Heart Diseases .....	140	172	191	159	192	191	211	194	220	241	218
Croup .....	27	47	48	30	28	46	54	52	36	32	46
Bronchitis .....	582	577	711	583	636	495	544	524	559	629	666
Pneumonia .....	280	285	304	329	292	314	317	317	350	334	356
Lung and Respir : Dis : (other)	65	84	87	91	56	49	71	54	54	41	74
Teething .....	9	6	4	4	5	3	13	32	7	1	9
Diges : Org : Dis : of .....	156	132	172	170	142	153	181	168	151	171	182
Urinary Org : Dis : of .....	70	56	68	73	64	63	65	75	68	99	80
Parturition, dis : of .....	21	20	27	19	39	48	12	30	33	33	32
Gener : Orgs : dis : of .....	4	6	5	11	7	7	11	6	6	7	8
Locomo : Sys : Dis : of .....	10	16	14	16	11	5	19	13	33	43	21
Accident .....	116	115	112	102	86	80	90	91	98	110	114
Homicide .....	1	5	3	3	3	3	3	2	1	1	2
Suicide .....	4	9	12	9	7	8	12	8	7	15	10
Atrophy .....	253	307	244	246	208	187	186	218	174	214	255
Ill-defined Causes .....	20	4	18	20	86	106	84	102	48	49	62

SECTION III.

Amount of life saved, and amount lost, in 1887, compared with the mean annual mortality in 1887-86

Cause of Death.	Diminution in 1887.	Excess in 1887.
Brought forward .....	20 .....	187
Typhus fever.....	9 .....	—
Whooping cough .....	96 .....	—
Diphtheria and croup .....	1 .....	—
Ill-defined fever .....	11 .....	—
Enteric fever.....	— .....	9
Diarrhoeal diseases .....	— .....	20
Phthisis and other tuberc: diseases.....	121 .....	—
Premature birth ... ..	— .....	11
Brain and nervous diseases .....	35 .....	—
Heart diseases .....	— .....	33
Respiratory diseases.....	52 .....	—
Urinary diseases .....	8 .....	—
Atrophy, other ill-defined causes .....	61 .....	—
All other causes .....	— .....	30
	414	290

Balance of diminution and excess... 124

I.—SPECIFIC FEBRILE OR ZYMOTIC DISEASES.

Common infectious diseases

**Six Miasmatic Diseases.**—The six more familiar infectious diseases technically thus known, are the following :—Small-pox, scarlet fever (or scarlatina), diphtheria, continued fever, (including typhus and enteric fevers), measles, and whooping cough. With the exception of the two last, all these several forms of fever, together with puerperal and relapsing fevers, are compulsorily notifiable under our Local Act.

**Infectious Sickness reported under the Notification Act.**—During the 52 weeks of the year 1887, there were reported to the Health Department 1,889 cases of dangerous infectious disease, as compared with 1,882 cases in the year 1886, and 949 in the immediately preceding year.

The following table shows the incidence in each calendar month of the year 1887, of infectious attacks amongst Salford residents.



INFECTIOUS CASES REPORTED UNDER THE NOTIFICATION ACT.												SECTION III.		
YEAR 1887.	Small Pox.		Scarlet Fever.		Diphtheria.		Typhus Fever.		Enteric Fever.		Puerp. Fever.		Infectious sickness in Salford: its seasonal distribution	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.		
January ...	—	—	97	11	1	1	1	—	21	6	—	—		
February...	1	—	72	12	12	—	—	—	19	4	—	—		
March.....	1	—	129	14	1	1	—	—	19	6	1	—		
April .....	—	—	94	7	5	1	—	—	14	3	2	2		
May.....	—	—	67	12	4	3	—	—	11	4	—	—		
June .....	—	—	75	7	3	2	1	—	7	1	2	2		
July.....	—	—	82	5	4	—	—	—	23	5	1	1		
August ...	—	—	125	12	6	2	4	—	43	3	—	—		
September	1	—	167	13	7	1	—	—	86	19	1	—		
October ...	—	—	194	22	16	7	—	—	57	15	2	2		
November.	—	—	188	24	11	2	1	1	40	5	1	1		
December.	1	—	137	9	13	1	—	—	26	7	1	—		

**Disease notification in other protected towns.**—There are now in Great Britain 52 important towns which possess powers for the compulsory notification of infectious disease. I have been able to collect statistics as to disease prevalence, with respect to 41 of these towns, and with the help of these I have constructed a table (see page 48), which shows the relative incidence on population, of the several notifiable infectious diseases, in each of the last five years. The rates given in the table are those in each 1,000 of the several populations. In the middle of the year 1887, the forty-one towns referred to in the table contained in the aggregate, an estimated population of 4,012,180 persons : and amongst these 35,301 cases of dangerous infectious disease are reported to have occurred during the year, namely, 330 cases of small-pox, 27,676 of scarlet fever, 1,843 of diphtheria, 275 of typhus, and 5,177 of enteric fever. Calculated on the estimated aggregate population, the total reported attacks are equal to a rate of 8·80 per 1,000, as compared with 5·47, 5·97, 5·64, and 6·07 per 1,000 in the years 1883 to 1886.

**Small-pox.**—Although small-pox was raging in Sheffield during the latter half of 1887 with such intensity as to kill 278 persons ; nevertheless, the cases imported into Salford, within that period, did not exceed four, only one of which was distinctly traceable to Sheffield. The return on page 48 shows that small-pox was present last year in 18 out of the 41 protected towns included in the list.

**Scarlet Fever.**—1,427 cases of scarlet fever were reported to the Health Department in 1887, as compared with 1,536 in the immediately preceding year. The table on page 61 shows that



RATES OF SICKNESS PER 1,000 OF THE RESPECTIVE POPULATIONS, FROM THE  
UNDER THE LOCAL

Towns.	Popula- tion in 1887.	Smallpox.					Scarlet Fever.				
		1883.	1884.	1885.	1886.	1887.	1883.	1884.	1885.	1886.	1887.
Aberdeen .....	119,334	...	0'05	...	0'01	0'34	2'17	1'59	5'78	7'17	5'53
Accrington .....	38,000	...	...	...	0'05	...	3'52	1'32	2'74	2'42	22'13
Barrow-in-Furness...	50,000	0'02	0'06	0'20	...	...	0'98	2'12	10'03	2'82	0'52
Birkenhead .....	100,093	0'03	1'34	0'26	0'06	...	1'91	3'08	5'97	6'58	9'03
Blackburn .....	120,000	0'04	...	0'04	0'24	0'35	2'54	1'91	1'61	3'68	14'30
Blackpool .....	20,380	0'19	0'06	0'11	0'05	...	2'75	1'68	1'39	5'47	4'56
Bolton .....	113,506	0'03	0'12	0'05	...	...	0'95	2'75	1'69	2'87	5'84
Bradford (Yorks.) ...	229,721	0'02	0'01	0'04	0'01	0'17	1'72	2'35	3'67	5'10	5'62
Burnley .....	78,000	...	...	0'17	...	...	...	2'49	4'97	9'33	6'41
Burton-on-Trent ...	49,897	0'19	...	...	...	...	2'30	1'93	8'02	4'68	4'41
Bury .....	57,776	...	0'06	0'02	0'07	0'23	...	2'11	2'80	1'84	3'07
Croydon .....	93,400	...	...	...	...	0'02	...	...	...	1'36	2'50
Derby ...	96,241	0'02	0'08	...	...	...	5'91	4'44	1'87	1'82	0'66
Dewsbury .....	33,000	...	...	...	...	0'03	...	...	...	6'68	5'03
Dundee .....	160,619	0'01	...	...	0'01	...	2'65	2'86	1'23	8'56	26'34
Edinburgh .....	262,733	...	...	0'05	0'10	...	7'74	5'67	4'34	5'13	9'32
Greenock .....	77,015	...	...	0'08	...	...	2'40	3'03	1'22	1'70	3'76
Halifax .....	80,200	0'03	0'01	0'09	0'03	0'04	2'08	3'52	2'74	1'59	9'07
Hartlepool .....	18,000	...	...	8'78	11'78	...	...	...	0'72	2'33	2'39
Heywood .....	25,000	...	...	...	0'16	0'03	...	0'56	0'08	0'32	3'84
Huddersfield .....	91,419	0'01	...	0'03	0'44	...	1'07	1'37	2'87	4'18	5'72
Jarrow .....	30,000	1'11	0'14	0'37	...	...	5'11	3'14	8'80	3'14	5'77
Lancaster .....	21,795	...	0'50	...	...	...	0'37	0'86	4'84	1'83	5'00
Leek .....	13,780	...	...	...	0'15	...	...	6'96	1'11	0'66	3'41
Leicester .....	143,153	0'09	0'01	0'06	0'01	0'06	6'16	5'28	13'34	5'85	1'90
Macclesfield .....	37,620	...	...	...	...	...	4'97	1'55	1'67	1'12	17'25
Manchester .....	377,529	0'03	0'08	0'79	0'02	0'17	5'03	4'76	2'30	4'30	7'12
Newcastle-on-Tyne...	157,048	3'30	1'15	0'46	0'03	0'05	7'71	14'33	8'00	6'47	7'70
Norwich .....	93,675	...	0'01	0'01	...	...	0'71	0'97	3'06	4'72	4'74
Nottingham .....	240,000	0'11	0'05	0'04	0'05	0'01	2'05	1'75	1'70	1'50	2'50
Oldham .....	138,220	0'05	0'01	0'03	0'04	0'02	2'53	2'32	1'81	3'00	12'84
Portsmouth .....	139,575	...	0'01	0'08	0'05	0'15	...	1'97	2'15	0'52	4'48
Preston .....	103,234	0'01	0'03	0'11	0'08	0'01	2'84	2'58	2'91	1'50	8'43
Reading .....	58,983	...	0'04	0'06	0'10	0'02	2'77	4'65	9'03	4'89	3'61
Rotherham .....	36,150	...	0'11	0'08	...	2'99	2'58	4'09	8'05	1'49	1'49
Salford .....	202,732	0'03	0'03	0'06	...	0'02	4'34	6'09	3'26	7'75	7'04
Stafford .....	21,206	...	0'05	...	...	...	...	0'98	0'24	0'05	0'05
Stalybridge .....	27,700	...	...	0'11	...	...	1'28	4'97	1'29	0'77	2'35
Sunderland .....	131,919	...	...	...	...	...	...	...	...	2'57	2'01
Warrington .....	48,200	0'02	0'09	...	...	...	2'90	0'49	0'44	0'21	1'43
York .....	75,327	...	...	...	0'01	...	...	...	0'92	1'22	2'86
Total .....	4,012,180	0.20	0'12	0'19	0'10	0'08	3'59	3'81	3'64	4'12	6'90

SEVERAL INFECTIOUS DISEASES, NOTIFICATION OF WHICH IS COMPULSORY  
ACTS OF PARLIAMENT.

Diphtheria.					Typhus Fever.					Enteric Fever.					Towns.
1883.	1884.	1885.	1886.	1887.	1883.	1884.	1885.	1886.	1887.	1883.	1884.	1885.	1886.	1887.	
0.29	0.77	0.49	0.38	0.22	0.24	0.51	0.10	0.01	0.23	0.55	0.91	1.09	0.95	0.72	Aberdeen
0.21	0.18	0.06	0.36	0.34	...	...	...	...	...	1.88	1.18	1.17	0.81	0.79	Accrington
0.64	0.84	1.42	0.46	0.72	...	0.12	...	...	...	4.15	2.60	1.82	2.20	2.40	Barrow-in-Furn's
0.21	0.17	0.23	0.24	0.19	0.47	0.17	0.03	0.16	0.09	0.86	0.79	0.41	0.60	1.24	Birkenhead
...	...	...	...	0.01	...	...	...	...	...	4.07	2.43	1.15	0.92	1.25	Blackburn
0.50	0.41	0.44	1.38	0.44	...	...	...	...	...	1.44	1.51	1.22	0.92	0.83	Blackpool
0.08	0.09	0.07	0.16	0.16	0.08	0.06	...	0.03	0.02	0.70	1.44	0.52	0.54	0.85	Bolton
0.06	0.11	0.20	0.21	1.35	0.15	0.01	0.01	...	...	1.04	0.95	0.71	0.73	0.58	Bradford
	0.08	0.10	0.32	0.41		...	...	...	0.01	...	1.01	1.31	0.63	0.69	Burnley
0.59	0.75	1.52	0.79	0.66	0.05	...	0.02	...	0.04	0.28	0.59	0.61	0.55	0.40	Burton-on-Trent
	0.13	0.09	0.09	0.14		0.07	0.02	...	...		1.52	0.51	0.26	0.24	Bury
	...		0.66	1.45				...	0.02				0.24	0.49	Croydon
0.09	0.01	0.01	0.07	0.28	...	...	...	...	...	0.60	3.93	0.55	1.73	1.09	Derby
			...	0.12				...	0.03				0.34	0.94	Dewsbury
0.79	1.15	0.53	0.24	0.20	0.47	0.19	0.39	0.29	0.49	1.89	0.79	0.71	0.41	0.72	Dundee
0.91	0.73	0.59	0.83	0.97	0.21	0.17	0.23	0.05	0.14	1.47	2.36	2.35	0.88	1.26	Edinburgh
0.52	0.45	0.38	0.23	0.41	0.57	0.44	2.05	0.71	0.35	0.67	1.27	0.68	0.72	0.96	Greenock
0.19	0.05	0.32	0.76	0.32	0.03	0.01	0.01	...	...	1.42	0.90	0.72	0.73	0.82	Halifax
	...	0.17	0.22	0.39			1.72	6.11	...			3.28	2.55	2.05	Hartlepool
	0.08	0.04	...	0.64		...	...	...	...		1.12	1.12	1.08	0.56	Heywood
0.09	0.09	0.03	0.33	0.72	...	...	...	...	...	0.48	1.00	0.79	0.50	0.48	Huddersfield
0.07	0.03	0.30	0.63	0.50	0.04	0.28	0.03	0.07	...	1.00	1.38	0.63	0.73	0.40	Jarrow
...	...	...	...	0.05	...	0.58	...	...	...	0.69	0.72	1.86	1.70	0.92	Lancaster
	...	...	...	...		...	0.07	...	...		0.45	0.15	0.22	0.58	Leek
0.20	0.36	0.40	0.37	0.57	...	...	...	...	...	0.65	0.90	1.59	1.01	1.55	Leicester
0.10	0.24	0.05	0.05	0.21	0.03	...	...	0.05	...	0.64	0.37	0.32	0.53	1.14	Macclesfield
0.26	0.18	0.12	0.29	0.44	0.15	0.18	0.08	0.11	0.07	0.73	0.91	0.80	1.23	1.33	Manchester
0.19	0.50	0.61	0.47	0.57	0.60	0.11	0.06	0.01	0.24	1.45	1.72	1.65	1.32	2.07	Newcastle
0.04	0.19	0.13	0.27	0.33	...	0.01	0.02	0.01	...	0.39	1.34	6.40	2.85	1.45	Norwich
0.60	0.52	1.11	0.30	0.19	...	...	...	...	...	0.76	1.00	1.37	1.31	1.68	Nottingham
0.13	0.16	0.22	0.34	0.92	...	...	...	0.08	0.01	0.81	0.82	0.46	0.76	0.86	Oldham
	1.22	0.66	1.70	1.79		...	...	...	...		4.00	5.23	9.17	4.15	Portsmouth
0.22	0.18	0.16	0.23	0.47	...	...	...	0.01	...	2.67	2.18	1.24	2.53	2.92	Preston
0.83	0.63	0.45	0.23	0.14	...	...	...	...	...	0.40	0.52	0.34	0.41	0.22	Reading
0.39	0.14	0.11	0.23	0.06	...	...	...	...	...	2.22	3.82	1.66	5.49	0.97	Rotherham
0.44	0.52	0.28	0.21	0.41	0.08	0.18	0.17	0.02	0.03	1.58	2.22	1.06	1.46	1.81	Salford
	0.05	0.10	...	0.05		...	...	...	...		0.39	0.05	0.05	...	Stafford
...	0.15	...	...	0.04	0.04	...	0.04	0.07	...	0.68	0.67	0.66	1.36	0.32	Stalybridge
...			0.17	0.26	...			0.31	0.09	...			0.83	1.11	Sunderland
0.18	...	0.13	0.17	0.17	0.09	0.05	0.07	...	0.04	0.50	0.81	0.42	0.50	0.77	Warrington
	...	0.01	0.06	0.20		...	...	...	...		...	0.59	3.60	2.46	York
0.33	0.39	0.36	0.36	0.46	0.14	0.10	0.11	0.09	0.07	1.21	1.55	1.34	1.40	1.29	Total



SECTION III.

Scarlet fever  
prevalence in  
1887

in the course of the first half of the year, the number of reported cases exceeded the weekly average (27) in three instances only: in the 33rd week, however, the usual autumnal recrudescence set in, the numbers continuing to rise until the 44th week, when the reported cases reached the high maximum of 56. From this time the numbers gradually subsided, but the weekly mean was not again reached until the last week of the year.

The subjoined figures, which represent rates of attack per 1,000 persons living, will show at a glance the relative prevalence of scarlet fever in the four districts of Salford, in each year since the establishment of compulsory notification; the borough rates of incidence are also compared in this table with the average rates in the 41 notification towns of Great Britain.

SCARLET FEVER SICKNESS.—RATES PER 1,000 OF POPULATION.

	1883.	1884.	1885.	1886.	Mean.	1887.
<b>Salford (Borough)</b> .....	4.34	6.09	3.26	7.75	<b>5.36</b>	7.04
41 Notification Towns .....	3.59	3.81	4.64	4.12	<b>3.79</b>	6.90
SALFORD DISTRICTS.	{ Regent Road .....					
	4.81	5.33	3.46	8.58	<b>5.55</b>	6.64
	{ Greengate .....					
	3.42	8.66	4.01	9.38	<b>6.37</b>	7.03
	{ Pendleton .....					
	5.37	5.04	3.30	3.70	<b>4.35</b>	6.77
	{ Broughton .....					
	2.80	6.83	2.08	10.02	<b>5.43</b>	8.28

and in previous  
years also

From this statement it will be seen that throughout the last two years, scarlet fever has shown abnormal incidence in Salford: the disease having shown excessive prevalence during 1887, as compared with the average, in all four of the districts of the borough. The table further shows that the disease has been prevalent in the 41 notification towns, in proportions which suggest almost a general epidemic. The reported cases of scarlet fever in these 41 towns numbered not less than 27,676, which, calculated on an aggregate population estimated at 4,012,180, are equal to a rate of 6.9 per 1,000, or more by 82 per cent than the average rate obtaining in the four years immediately preceding.

Scarlet fever  
prevalence in  
other English  
towns

Eleven only of the protected towns in the list, showed in 1887 a greater scarlatina prevalence than that of Salford, and the remaining twenty-nine, a less.

If we compare the statistics of the last five years, by the help of the above table, it will be found that the rate of scarlet fever prevalence in Salford has been in excess of that in the 41 British notification towns during the same period, by more than 23 per cent.

Case fatality  
amongst report-  
ed attacks

Of the 1,427 cases of scarlet fever that came to the knowledge of the Health Department last year, 148 terminated fatally; the case fatality, or proportion of deaths to attacks, was therefore equal to 10.3 per cent, as compared with 11.5 per cent in the year 1886. The case fatality was highest in the first half of the

year, the attacks observed after midsummer assuming a considerably milder type. This is the reverse of what was noticed in the year 1886, agreeing more closely with our experience of the immediately preceding year.

The following statement, which has been deduced from figures given in the quarterly returns of the Registrar General, shows the annual rates of mortality from scarlet fever in 1887, and in recent previous years. The Salford rates are here compared with those of other parts of the country.

SCARLET FEVER MORTALITY. RATES PER 1,000 OF POPULATION.

	1882.	1883.	1884.	1885.	1886.	Mean.	1887.	
England and Wales...	0·52	0·47	0·40	0·23	0·21	<b>0·37</b>	0·27	Relative mortality
28 Great English Towns	0·55	0·57	0·45	0·24	0·25	<b>0·41</b>	0·39	
London .....	0·52	0·51	0·36	0·17	0·17	<b>0·35</b>	0·34	
<b>Salford</b> (Borough) ...	0·45	0·44	0·75	0·32	0·85	<b>0·56</b>	0·76	
50 other Towns .....	0·65	0·55	0·51	0·25	0·26	<b>0·44</b>	0·25	
Rural Districts .....	0·47	0·39	0·34	0·21	0·18	<b>0·32</b>	0·21	

Throughout England and Wales, there seems to have been a uniform recrudescence in scarlet fever fatality during 1887. The table just given shows that from 1882 down to the end of 1886, scarlet fever showed a remarkable and progressive decline; but in the year under notice, instead of a further fall, an abrupt and a general rise in the mortality took place; the increase in England and Wales, as a whole, being equal to 29 per cent on the mortality in 1886. In London, scarlatina was just twice as fatal in the year 1887 as in the two years immediately preceding; the rate in 1887 being practically identical with the average rate in the previous quinquennium. A glance at the lowest line of the before-mentioned table further shows that the increase referred to was by no means confined to the larger town populations, although it was naturally most apparent there. For in the so-called rural districts of England, which include no urban communities of importance, the rate of mortality in 1887 was higher than that of the preceding year by more than 16 per cent.

**Diphtheria.**—During the year under notice, 83 cases of diphtheria were reported to the Health Department, or just double the number reported in 1886. Of the notified cases last year, 21, or 25 per cent, terminated fatally.

In addition to the deaths referred by medical certificate to diphtheria, the Salford register contains entries of 46 other deaths, which are there referred to membranous or true croup, but which for preventive purposes, may be regarded as essentially diphtheritic in character.

The following table shows the relative incidence of diphtheritic attacks in the four districts of Salford, and in the borough as a



SECTION III.  
Diphtheria  
sickness in  
Salford and  
other English  
towns

whole, and for comparison with the local rates, the average diphtheria rates are given for the 41 towns which possess notification powers.

DIPHTHERIA SICKNESS.      RATES PER 1,000 OF POPULATION.

	1883.	1884.	1885.	1886.	Mean.	1887.	
<b>Salford (Borough).</b> .....	0·44	0·52	0·28	0·21	<b>0·36</b>	0·41	
41 Notification Towns .....	0·33	0·39	0·36	0·36	<b>0·36</b>	0·46	
<b>SALFORD DISTRICTS.</b> {	Regent Road.....	0·15	0·53	0·19	0·15	<b>0·26</b>	0·32
	Greengate .....	0·44	0·38	0·28	0·16	<b>0·32</b>	0·09
	Pendleton ....	0·57	0·51	0·14	0·22	<b>0·36</b>	0·40
	Broughton .....	0·89	0·67	0·65	0·36	<b>0·64</b>	0·88

It thus appears, that two out of the four Salford districts show a lower average sickness rate from this disease than the average rate in the 41 notification towns, which is 36 in every 100,000 of the aggregate population. It is unsatisfactory, however, to note that year after year the Broughton district continues to show a rate greatly in excess of that of other parts of Salford. In the year 1887, diphtheria appears to have been more than twice as prevalent in Broughton as in the remaining districts of the borough, and more than nine times as prevalent as in the unhealthy district of Greengate. Of the notification towns included in the table on page 49, 15 showed individually a higher rate of diphtheria prevalence than that of our own borough, and 22 a lower.

General excess  
of diphtheria in  
great centres of  
population

The rate of mortality from diphtheria last year in London and in the great English towns was in excess of the average, as will appear from the subjoined figures,\* but in the rural districts the rate was somewhat in defect of the mean. The Salford rate of mortality from diphtheria, during the last six years, has been less than half the rate obtaining in London.

**Typhus Fever.**—It is a humiliating fact, that not a single year has elapsed, since the passing of the notification act, in which the Salford registers have not been defaced by several entries on account of typhus fever. Thus, in the five years, terminating with 1887, the reported annual attacks from this eminently preventible disease have numbered 14, 35, 32, 15, and 7, respectively. In 1887 the cases did not come from the district which has furnished the bulk of our typhus cases in previous years—nor did they all occur at one period of the year. With three exceptions, there-

\* DIPHTHERIA.      RATE OF MORTALITY PER 1,000 OF THE POPULATION.

	Mean		
	1882-86.		1887.
England and Wales .....	0·16	....	0·15
28 great English towns .....	0·16	....	0·18
London .....	0·22	....	0·23
Salford .....	0·10	....	0·10
50 other towns .....	0·09	....	0·11
Rural districts.....	0·16	....	0·15

fore, they may be taken as sporadic cases, the only discoverable circumstance, common to them all, being filth and overcrowding, and the usually concomitant poverty and want of the necessities of life. The exceptions referred to were three patients who were removed from Middlewood Street, supposed to be suffering from enteric fever; the disease, however, turned out to be typhus. All the patients were removed as soon as discovered, to Wilton Hospital, and in no case did the infection spread to other people from the patients first infected.

SECTION III.

Typhus fever  
sickness in Sal-  
ford in 1887

**Enteric or Typhoid Fever.**—In the course of last year, 368 fresh cases of enteric fever were reported to the Salford Health Department, as compared with 205 and 288 respectively, in the years 1885 and 1886. Turning to the table on page 61, we find that, as in past years, the disease showed the heaviest incidence in the latter part of 1887, not less than 73 per cent of the total cases having occurred within the last two quarters.

The accompanying figures, which express annual rates of sickness per 1,000 persons living, show, for the last five years, the relative incidence of this disease in Salford, and in other towns protected by notification. The rates of enteric sickness are also given for the several districts of the borough in 1887, and in each of the four years immediately preceding.

Sickness rate in  
recent years

#### ENTERIC FEVER SICKNESS.—RATES PER 1,000 OF POPULATION.

	1883.	1884.	1885.	1886.	Mean.	1887.
<b>Salford (Borough)</b> .....	1·58	2·22	1·06	1·46	<b>1·58</b>	1·81
41 Notification Towns .....	1·21	1·55	1·34	1·40	<b>1·38</b>	1·29
<b>SALFORD DISTRICTS.</b> { Regent Road.....	1·51	2·59	1·04	1·94	<b>1·77</b>	1·81
{ Greengate .....	1·07	1·13	1·19	1·41	<b>1·20</b>	2·04
{ Pendleton .....	1·85	2·65	1·14	1·17	<b>1·70</b>	2·25
{ Broughton .....	1·84	1·85	0·87	0·82	<b>1·35</b>	1·04

Neglecting decimals, the above figures express annual rates per 100,000 persons living. The means of the quinquennial period, 1883-86 being taken, the table may thus be read. Amongst equal numbers living, there occurred in the Greengate district only 120 attacks by enteric fever, and in the Broughton district 135, whereas in Pendleton the proportion was 170, and in Regent Road 177. In the year 1887, the discrepancy was still greater, and showed a different local incidence; for whilst the attacks in Broughton were equal to a rate of 104 only in each 100,000 of the population, the proportion ranged upwards to 204 in Greengate, and to 225 in Pendleton.

Local incidence  
of enteric sick-  
ness

With respect to enteric fever incidence, Salford compares unfavourably with other notification towns. Thus, in the four years terminating with 1886, the sickness rate from this disease, in the 41 towns provided with notification powers, was equal to 138 in each 100,000 persons living, whilst in Salford the rate was



SECTION III.  
Enteric fever  
relative incidence here and elsewhere

equal to 158 in the same population. Of the notification towns included in the list on page 49, only six showed a higher enteric rate than that of Salford, and the remaining 34 a lower.

As regards *case fatality*, enteric fever seems to have presented a somewhat graver type last year than the average. The mean proportion of deaths to reported cases was equal to 20·7 per cent in the four years 1883-86, whilst it amounted to 21·2 per cent in the year 1887. The *annual rate of mortality* attributable to enteric fever in Salford last year, was equal to 0·40 per 1,000 persons living, which exceeds the average rate in the preceding five years by 33 per cent. In London, the rate of enteric mortality in 1887 did not exceed 0·15 per 1,000, which was only half of the average rate.

Mortality from continued fever

**Continued Fever.**—Under this heading the Registrar General still includes the various forms of fever, known as typhus, typhoid, and febricula, or simple continued fever: consequently it is impossible to compare the mortality under these headings in the 28 great English towns, otherwise than by thus grouping diseases which are essentially and ætiologically distinct. The figures\* in the foot-note compare with the Salford rate the average “fever” rates in the various parts of the country.

It thus appears that Salford is the only area of the six selected for comparison, in which the “fever rate” of 1887 exceeds the mean rate in the previous five years.

Mortality from measles

**Measles.**—Notification of this disease is not required under our Local Act; consequently, the only measure of its prevalence is that afforded by the mortality to which it gives rise. In the course of the year under notice, 320 deaths were referred to measles, as compared with 47 in the year 1886, and 178 in the immediately preceding year.

The intensity of the disease, though not its quantitative prevalence, is represented by the following figures, which relate to Salford and to certain other areas of the country.

Local distribution of measles mortality

MEASLES. ANNUAL RATE OF MORTALITY PER 1,000 OF THE POPULATION.		1882.	1883.	1884.	1885.	1886.	Mean.	1887.
England and Wales ...		0·48	0·35	0·42	0·51	0·41	0·43	0·58
28 Great English Towns		0·67	0·50	0·60	0·69	0·54	0·60	0·79
London .....		0·60	0·62	0·55	0·72	0·50	0·60	0·69
<b>Salford</b> (Borough) ...		0·92	0·84	0·52	0·92	0·24	0·69	1·58
50 other Towns .....		0·58	0·41	0·45	0·75	0·52	0·54	0·54
Rural Districts .....		0·33	0·23	0·28	0·37	0·33	0·31	0·46

* CONTINUED FEVER. ANNUAL RATE OF MORTALITY PER 1,000 LIVING.		Mean	
		1882-86.	1887.
England and Wales .....		0·26	0·20
28 great English towns .....		0·29	0·22
London .....		0·23	0·16
Salford (borough) .....		0·38	0·42
50 other towns .....		0·30	0·24
Rural districts.....		0·23	0·18

It thus appears, that measles was more fatal in Salford during 1887, than in any of the other localities included in the table, and that the measles death-rate in this year was vastly in excess of that in any one of the previous five years. It was in the second quarter of the year that measles caused the greatest mischief: the deaths, which in the first quarter of the year had numbered 65, increasing to 175 in the second quarter. More than half, therefore, of the deaths recorded in 1887, occurred in the June quarter of the year.

SECTION III.

Measles—local distribution of mortality

**Whooping Cough.**—This disease accounted for 64 deaths last year, as compared with 127 in the year 1886. Whooping cough was less fatal last year than in any year of the preceding five. This will be seen on reference to the following table.

Mortality from whooping cough

WHOOPING COUGH.	ANNUAL RATE OF MORTALITY PER 1,000 LIVING.						
	1882.	1883.	1884.	1885.	1886.	Mean, 1887.	
England and Wales ...	0·58	0·39	0·42	0·44	0·44	0·45	0·38
28 Great English Towns	0·90	0·46	0·64	0·60	0·54	0·63	0·62
London .....	1·20	0·40	0·79	0·61	0·68	0·74	0·70
<b>Salford</b> (Borough) ...	0·84	0·57	0·68	0·67	0·64	0·68	0·32
50 other Towns.....	0·47	0·37	0·33	0·53	0·42	0·42	0·33
Rural Districts .....	0·37	0·32	0·27	0·34	0·38	0·34	0·25

The table also shows that the Salford rate of death from whooping cough last year, was slightly lower than the rate in the 50 second rate towns, and considerably less than half the rate which obtained in London during the same period.

**Aggregate Mortality from Infectious Diseases.**—The following table furnishes the means of comparing the Salford rates of mortality from the six principal miasmatic, or infectious diseases, in recent years, with the corresponding rates in other parts of England and Wales. With the exception of those for Salford, the figures have been deduced from the quarterly returns of the Registrar General.

Aggregate "miasmatic" mortality in England and Wales, and in Salford

	1882-86.		1887.		Difference in 1887.
England and Wales ...	1·70	.....	1·60	.. ...	—5·9%
28 Great English Towns	2·17	.....	2·24	.... .	+3·2%
London .....	2·25	.....	2·12	.....	—5·8%
<b>Salford</b> (Borough) ...	2·43	.....	3·18	.....	+30·9%
50 Other Towns.....	1·83	.....	1·49	.....	—18·6%
Rural Districts .....	1·39	.....	1·26	.....	—9·3%

It would therefore appear that in London, in the 50 second rate towns, and in the rural districts of England, the incidence of fatal infectious diseases was lighter in 1887 than in the previous quinquennium, whilst in the 28 great towns of the Registrar



SECTION III. General, and especially in our own borough, the reverse was the case. The excess in Salford, which amounted to 31 per cent, was mainly due to increased mortality from measles and scarlet fever, especially the first mentioned disease, which has shown exceptional fatality in 1887 throughout the country generally.

Mortality from  
diarrhoea

**Diarrhoeal Diseases.**—Three hundred and forty deaths of persons at all ages were referred to diarrhoeal diseases in Salford last year, as compared with 401 in the year 1886; the corrected decennial average being 320. Of the diarrhoea deaths at all ages, not less than 315 were those of children under five years of age, including 252 of infants who had not completed their first year of life. The rate of mortality last year, in Salford, due to diarrhoeal diseases, was equal to 1·67 per 1,000 living at all ages, which exceeds the average rate in the preceding five years by nine per cent. The following figures show the relative incidence of fatal diarrhoea, during recent years, in Salford and in other parts of the country.

DIARRHŒA.—ANNUAL RATE OF MORTALITY PER 1,000 LIVING.

	1882.	1883.	1884.	1885.	1886.	Mean.	1887.
England and Wales ...	0·65	0·60	0·97	0·46	0·84	<b>0·70</b>	0·69
28 Great English Towns	0·86	0·77	1·21	0·69	1·16	<b>0·94</b>	0·97
London .....	0·55	0·67	0·97	0·66	0·95	<b>0·76</b>	0·90
<b>Salford</b> (Borough) ...	1·32	1·13	1·96	1·27	2·02	<b>1·54</b>	1·67
50 other Towns .....	0·78	0·67	1·09	0·47	0·98	<b>0·80</b>	0·74
Rural Districts .....	0·48	0·43	0·72	0·34	0·63	<b>0·52</b>	0·50

Chart, shewing  
local distribu-  
tion of mortality  
from diarrhoea in  
the nine years  
1879—87

**Diarrhoea Chart.**—In the year 1884, a sketch map was constructed in this department, in which are shown the boundaries of the 208 enumeration districts into which the borough was divided for the purposes of the last census. The populations of the several areas, as enumerated at the census, have kindly been given me by the District Registrars, and the diarrhoea deaths occurring in each district during the last nine years, have been extracted from the registers in this office. In all cases, where the necessary data have been available, the deaths occurring in public institutions have been distributed to the districts to which the patients originally belonged. With the help of these data, I have been able to calculate and to express on the accompanying Chart, the average annual rates of death from diarrhoea in each of the 208 enumeration districts of the Borough: the rates being based on the mortality occurring in the years 1879—1887. (See page 58.)

The following is the principle which has been adopted in the colouring of the chart. The fundamental boundary line is the mean diarrhoea death-rate of the borough, namely, 1·5 per 1,000. All the districts having a higher death-rate than this are shown in blue: the highest mortality of all being depicted in dark

blue. The districts with a death-rate below the mean are either uncoloured, or are coloured red. The red colouring indicates that the death-rate (0·5 per 1,000 to 1·5), although below the mean, is nevertheless above that of the areas left unshaded, which latter are subject to a death-rate of less than 0·5 per 1,000.

SECTION III.  
Diarrhœa mor-  
tality

From the calculations which have been made in the preparation of this chart, it appears that of the 208 enumeration districts of the borough, there are 31 containing a population of 24,626 at the last census, the diarrhœa mortality amongst whom—not in any one year, but on the average of nine consecutive years—has been equal to more than 2·5 per 1,000. On the other hand, there are considerable areas in the borough inhabited by 13,485 people, where the diarrhœa death-rate is less than half of one in every thousand persons living. The following statement has been deduced from the calculations above referred to.

Enormous varia-  
tions in the  
several districts  
of Salford

ENUMERATION DISTRICTS.	Average rate of Diarrhœa Mortality.	No. of Districts subject to this rate.	Aggregate Population of Districts, thus rated.
Uncoloured .....	0·24	17	13,485
Red (Shaded) .....	1·07	71	60,797
Blue (Shaded) ... ..	1·89	89	77,369
Blue (Dark) .....	3·01	31	24,626

IV.—CONSTITUTIONAL DISEASES.

To this important class of diseases, 795 deaths at all ages, or 16 per cent of the total mortality, were referred in the year 1887. The rate of mortality from constitutional diseases was therefore equal to 3·9 per 1,000 of the population, or less by 0·5, than the average\* rate from this class of diseases in the five years 1882-86. The “constitutional” rate was highest, last year, in Greengate, which is the only district in the borough in which the rate of death from constitutional diseases was in excess of the quinquennial average.

Mortality from  
constitutional  
diseases

V.—DEVELOPMENTAL DISEASES.

Three hundred and twenty-two deaths, or 6·6 per cent of the total mortality, were referred to this class last year. These deaths

\* See table D on page 37



SECTION III.  
Developmental  
diseases

are equal to an annual rate of 1·6 per 1,000 of the population, which is somewhat in excess of the mean rate recorded in the preceding five years.

# VI.—LOCAL DISEASES.

Mortality from  
“local” diseases

In the course of last year, 2,271 deaths, or 47 per cent of the total mortality, were referred to diseases of the local class. These deaths are equal to a rate of 11·2 per 1,000 of the population, which is slightly in excess of the mean rate in the preceding five years. As usual, the Greengate district is that in which the highest rate of death from “local diseases” is recorded: the ratio there being equal to 13·9 per 1,000, against 8·9 in Broughton, and 11·2 in the borough generally. Of the large number of death causes included under this head, there are three, apoplexy, pneumonia, and heart disease, which have shown excessive fatality in 1887: the deaths from these diseases being above the corrected average, respectively, by 18, 17, and 15 per cent. The remaining causes of death of the “local” class show, in 1887, either a similar or a less fatality than the average. Two things are noteworthy with respect to the class of “local diseases”: first, the enormous variation which differently circumstanced localities show in regard to their mortality from diseases of this class; and secondly, the uniformity in the death-rate from these diseases which each several district exhibits year after year. Hence it is, that the death-rate from “local diseases” is frequently preferred by sanitarians to the “zymotic rate,” as a test of healthiness.

# VII.—VIOLENT DEATHS.

Deaths from  
violence

One hundred and forty deaths were returned as due to violence, in one or other of its forms, in the course of last year, a number somewhat in excess of the average. Of the 140 violent deaths, 17 were referred to homicide or to suicide; but of the 123 remaining deaths, not less than 52 were of children under five years of age.

# VIII.—DEATHS FROM ILL-DEFINED CAUSES.

Unclassified  
deaths

Under this heading not less than 256 deaths, or 5·3 per cent of the total mortality, were registered in the year 1887. By no means the least significant feature in this connection, is the fact, that of the 256 deaths thus returned, not less than 237 were those of children under five years of age, 25 of which were “found dead in bed.”

Cause of deaths,  
“uncertified”

**Uncertified Deaths.**—Of the 4,827 persons dying in the Salford borough during the year under report, 4,425 were attended in their last illness by a medical practitioner: 207 were not so



# DIARRHOEA CHART.

Enumeration Districts of the Borough of Salford,

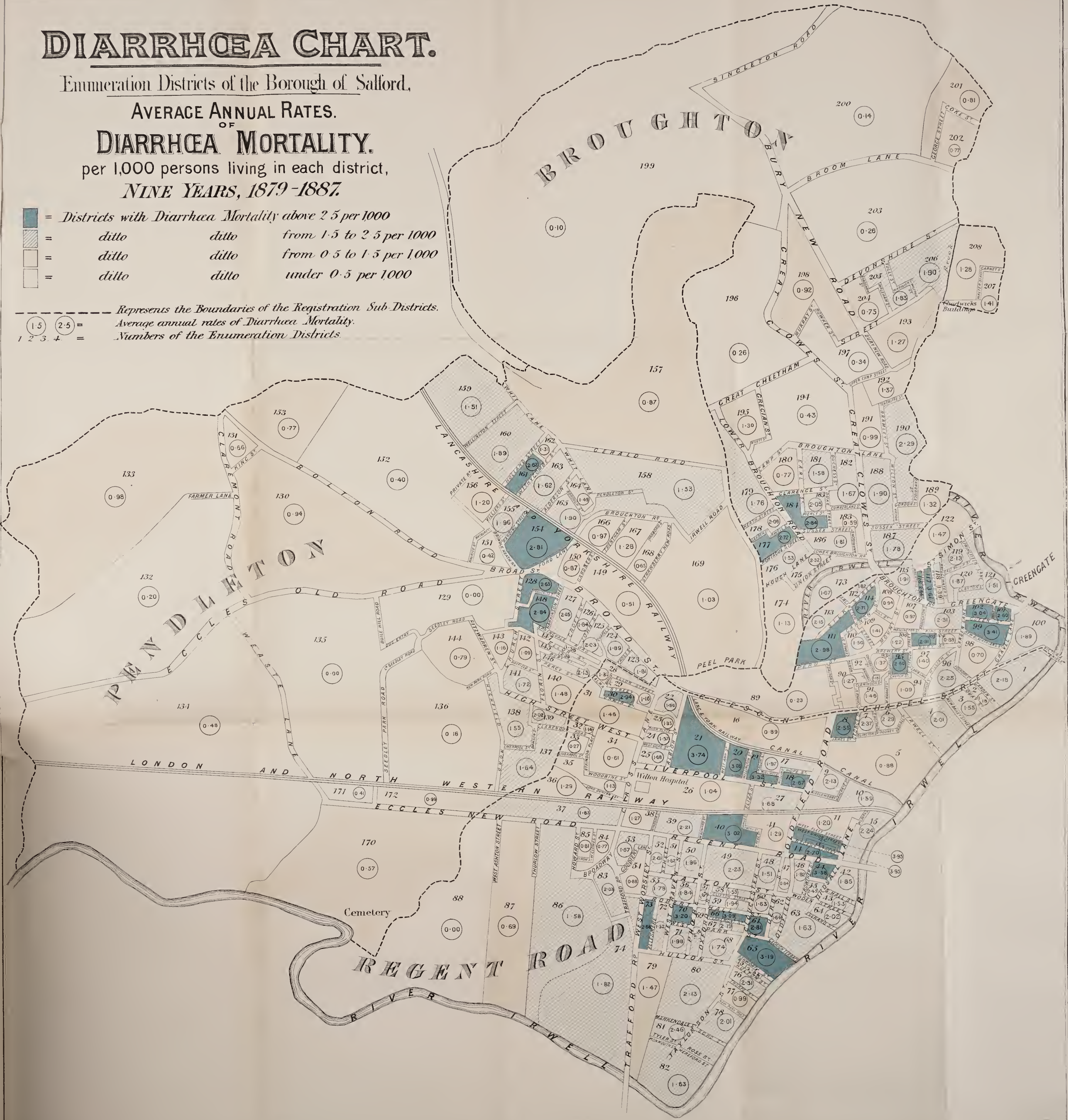
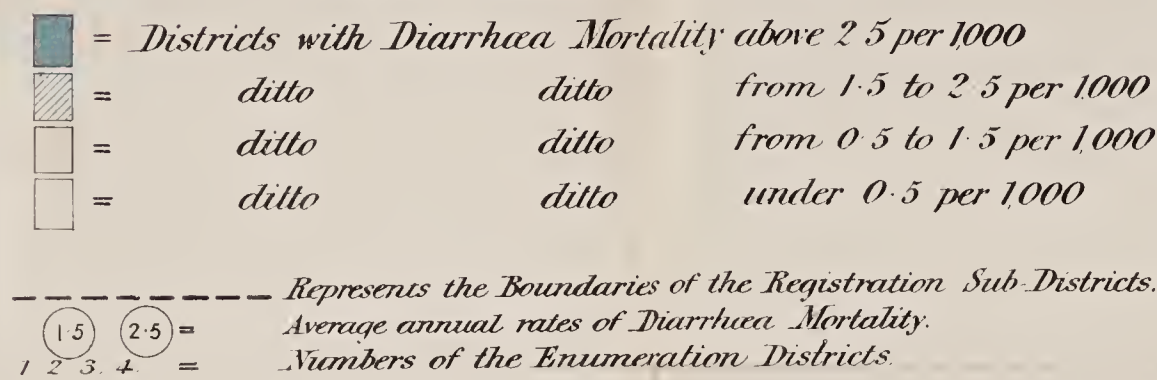
AVERAGE ANNUAL RATES.

OF

DIARRHOEA MORTALITY.

per 1,000 persons living in each district,

NINE YEARS, 1879-1887.







attended, but their deaths were inquired into by the coroner ; and 195 persons died without medical assistance. The percentage of uncertified deaths last year was lower than the average, but still the fact remains, that one out of every 25 persons dying, passes away without competent medical assistance on the death-bed.

The following is a rough arrangement of the assigned causes of death, in the case of the 195 persons whose deaths were not medically certified in 1887.

BOROUGH OF SALFORD.—UNCERTIFIED DEATHS, 1887.

SUPPOSED DISEASES.	AGES.				REGISTERED ON INFORMATION FROM—			Assigned causes of deaths not certified
	Under one month	One to 12 m'ths.	One year to five.	Over five years.	Coroner's Officer	Mid-wife.	Others	
Premature Birth . . . . .	61	...	...	...	1	56	4	
Convulsions . . . . .	35	15	1	...	20	24	7	
Bronchitis & Inflammation of Lungs . . . . .	...	3	2	16	19	...	2	
Other Diseases . . . . .	7	9	11	35	45	3	14	
All Diseases . . . . .	103	27	14	51	85	83	27	



TABLE G.

CERTIFICATION OF THE CAUSES OF DEATH IN THE BOROUGH OF  
SALFORD, AND ITS FOUR REGISTRATION SUB-DISTRICTS.  
IN THE YEAR 1887.

	Total Deaths.	Certified by		Not Certified.	Proportion per cent. of Deaths.		
		Registered Medical Practitioners.	Coroner.		Certified by		Not Certified.
					Registered Medical Practitioners	Coroner.	
Borough .....	4827	4425	207	195	91·7	4·3	4·0
Regent Road District	1973	1807	85	81	91·6	4·3	4·1
Greengate .....	1025	923	60	42	90·0	5·9	4·1
Pendleton .....	1146	1036	50	60	90·4	4·4	5·2
Broughton .....	683	659	12	12	96·4	1·8	1·8

CORRESPONDING DATA FOR THE EIGHT YEARS 1879-86.

Borough .....	35185	31996	1557	1632	91·0	4·4	4·6
Regent Road District	15106	13740	632	734	90·9	4·2	4·9
Greengate .....	7458	6624	447	387	88·9	5·9	5·2
Pendleton .....	7829	7177	318	334	91·6	4·1	4·3
Broughton .....	4792	4455	160	177	93·0	3·3	3·7

YEAR 1887.

METEOROLOGY, NOTIFIED CASES OF SICKNESS AND REGISTERED DEATHS FROM ALL CAUSES, AND FROM CERTAIN PREVALENT DISEASES IN EACH WEEK OF THE YEAR.

Week.	Temperature of the Air.			Air Pressure.	Horizontal Movement of Air in Miles p. hour.	Mean Humidity.	Complete Saturation. =100	Rainfall in Inches.	Sickness. (cases notified.)				*Deaths registered from											
Date of ending.	Highest during the Week.	Lowest during the Week.	Mean Temperature.	Extreme range of Barometric changes.					Smallpox.	Scarlet Fever.	Diphtheria.	Typhus Fever	Enteric Fever.	All Causes.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhus Fever.	Enteric Fever.	Diarrhoea.	Respiratory Diseases.	Phthisis.
1887.																								
Jan. 8	41.6	29.9	34.3	0.276	0.6	91	.593	...	23	1	...	6	108	...	1	4	1	...	...	3	...	32	13	
15	43.8	28.9	36.3	1.049	0.4	86	.296	...	19	...	...	6	91	...	2	4	...	...	...	3	2	24	3	
22	52.3	24.0	38.3	0.678	1.3	88	.409	...	27	...	1	4	83	...	3	...	...	...	...	2	1	25	9	
29	54.7	36.8	44.4	0.397	1.2	80	.105	...	24	...	...	3	69	...	3	6	...	1	...	1	1	20	3	
Feb. 5	55.0	32.8	44.6	0.514	1.9	84	.535	...	15	6	...	4	74	...	3	4	...	...	...	...	...	19	8	
12	44.0	25.2	35.0	0.396	0.4	81	...	...	23	2	...	8	82	...	3	2	...	...	...	2	2	21	11	
19	46.5	30.0	37.9	0.640	0.3	90	.152	1	23	1	...	6	75	...	2	4	...	...	...	1	1	20	4	
26	55.8	36.0	45.2	0.575	2.3	80	.215	...	13	3	...	3	90	...	5	2	...	1	...	...	2	19	10	
Mar. 5	55.5	29.7	39.8	0.301	0.2	87	...	1	25	...	...	5	94	...	9	4	...	1	...	...	2	17	8	
12	48.8	30.0	39.2	0.378	0.4	82	.280	...	21	...	...	2	101	...	9	2	...	1	...	1	3	29	7	
19	42.2	24.9	32.9	0.474	0.2	78	.042	...	32	1	...	3	96	...	10	2	...	...	...	2	...	24	14	
26	50.2	29.8	39.8	1.102	2.3	84	.960	...	30	...	...	4	100	...	8	5	1	1	...	2	1	21	9	
April. 2	56.0	36.0	45.1	0.531	1.8	82	.142	...	27	...	...	5	90	...	7	3	...	...	...	1	1	20	11	
9	50.8	35.0	42.5	0.709	1.2	71	.172	...	27	1	...	3	100	...	8	3	...	1	...	2	2	13	7	
16	62.2	31.6	43.8	0.510	0.5	71	.022	...	16	2	...	3	78	...	5	1	...	...	...	1	2	26	8	
23	59.2	33.0	47.6	1.505	1.5	71	.170	...	19	1	...	3	104	...	19	1	1	...	...	1	3	24	9	
30	53.8	35.0	43.7	0.877	2.1	78	.430	...	28	1	...	5	77	...	15	1	...	1	...	...	...	19	4	
May 7	60.2	37.0	45.5	0.567	0.4	81	.150	...	8	2	...	3	113	...	21	1	1	2	...	1	2	25	11	
14	70.0	38.0	50.2	0.296	1.0	71	.140	...	21	...	...	6	99	...	16	2	...	...	...	2	...	17	14	
21	64.8	39.7	49.9	1.175	2.1	73	1.730	...	21	2	...	2	110	...	21	5	2	2	...	1	1	20	12	
28	61.6	39.0	50.2	0.497	1.3	76	.227	...	11	...	...	...	98	...	16	4	...	1	...	...	2	23	15	
June 4	65.5	44.0	51.2	0.413	0.7	78	1.721	...	13	...	1	...	106	...	12	2	1	1	...	...	1	24	6	
11	70.8	47.1	57.7	0.493	1.4	70	.018	...	18	3	...	3	99	...	12	...	1	1	...	1	4	23	10	
18	83.2	55.0	65.7	0.238	0.5	68	...	...	9	...	...	1	82	...	11	2	...	2	...	...	1	17	7	
25	82.8	47.0	63.3	0.132	0.5	57	...	...	22	...	...	1	100	...	11	3	...	2	...	...	4	31	5	
July 2	81.1	52.7	64.5	0.262	0.4	67	...	...	23	1	...	2	85	...	8	3	...	...	...	...	2	18	5	
9	85.2	47.8	65.9	0.390	1.2	61	.380	...	18	...	...	3	85	...	10	1	...	3	...	...	7	15	1	
16	77.1	50.2	63.9	0.520	1.9	68	.365	...	15	2	...	5	96	...	8	3	...	2	...	2	11	24	6	
23	76.8	46.0	62.3	0.266	0.6	67	...	...	29	...	...	9	102	...	5	1	...	1	...	1	16	20	9	
30	76.8	55.3	63.5	0.630	2.7	70	1.024	...	16	1	...	6	90	...	9	2	...	...	...	1	23	10	9	
Aug. 6	84.9	49.0	62.7	0.318	0.6	68	...	...	21	3	4	13	110	...	4	3	...	2	...	...	30	17	4	
13	75.9	52.0	59.0	0.322	1.5	70	.040	...	21	1	...	4	114	...	7	...	1	1	...	...	31	14	7	
20	71.0	41.0	54.5	0.250	0.5	72	.447	...	32	...	...	10	103	...	1	2	...	2	...	3	36	5	5	
27	81.4	46.2	63.0	0.390	1.0	67	.235	...	29	2	...	11	109	...	3	4	1	...	...	1	22	12	7	
Sep. 3	77.7	51.5	60.7	0.807	3.1	74	1.372	...	39	2	...	10	101	...	1	1	...	...	...	1	24	13	11	
10	65.0	44.9	56.2	0.939	2.4	75	1.600	1	48	...	...	19	78	...	...	2	...	1	...	3	23	8	7	
17	64.7	42.8	52.1	0.409	1.2	82	1.430	...	27	2	...	18	109	...	1	4	...	...	...	5	19	11	11	
24	62.6	45.8	53.1	0.168	0.3	80	...	...	32	3	...	28	82	...	3	1	...	...	...	3	15	8	7	
Oct. 1	59.6	39.2	49.7	0.950	1.4	89	.850	...	48	...	...	19	73	...	2	1	1	1	...	6	8	6	4	
8	59.9	46.0	51.2	0.529	0.4	87	.730	...	42	4	...	18	80	...	1	6	1	2	...	5	7	12	10	
15	55.3	31.0	42.3	0.657	2.2	82	.151	...	46	3	...	10	72	...	2	2	2	...	...	...	1	19	10	
22	54.8	33.2	44.1	0.266	1.0	83	.010	...	46	2	...	9	72	...	1	1	...	1	...	2	7	21	3	
29	56.1	30.1	42.2	1.024	2.9	86	.658	...	36	7	...	8	91	...	4	4	3	2	...	1	2	25	10	
Nov. 5	52.8	38.8	45.4	0.709	3.9	89	.867	...	56	2	...	16	103	...	3	12	...	3	...	3	2	27	13	
12	54.2	42.0	46.5	0.907	1.4	91	.010	...	45	5	...	11	82	...	4	5	1	2	...	3	2	19	9	
19	44.7	28.0	36.3	1.102	0.6	91	...	...	41	...	...	6	72	...	2	5	2	1	...	1	...	16	6	
26	54.4	29.6	39.2	0.544	2.7	92	.102	...	37	3	1	9	95	...	2	3	...	3	1	1	1	28	14	
Dec. 3	51.3	34.8	44.1	0.827	2.5	87	.292	...	42	1	...	8	116	...	1	9	...	2	...	2	5	26	7	
10	51.5	30.2	39.6	0.703	2.7	87	.341	...	38	1	...	5	78	...	1	4	...	3	...	1	2	24	7	
17	52.6	28.0	41.9	0.886	3.7	87	1.091	1	31	1	...	9	98	...	...	6	...	4	...	1	2	28	6	
24	42.8	28.8	36.4	0.521	0.9	84	.213	...	37	6	...	7	104	...	2	1	1	5	...	1	2	37	7	
31	40.8	28.0	33.7	0.290	0.5	96	.084	...	17	5	...	6	110	...	3	3	...	5	...	3	2	28	13	

\* These are the uncorrected deaths registered within the borough.



TABLE OF DEATHS DURING THE YEAR 1887, IN THE URBAN SANITARY AND SHOWING ALSO THE POPULATION OF SUCH LOCALITIES,

Localities.		Population at all ages.		Registered Births.	Mortality from all causes at subjoined ages.						
		Census, 1881.	Estimated to the middle of 1887		At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
Total for Borough, exclusive of Public Institutions		174403	200920	6882	4209	1330	925	191	197	963	603
Deaths in Salford Institutions.	Union Infirmary .....	Beds. *	Beds. 800	...	374	10	6	4	10	166	178
	Workhouse .....	1369	1369	74	20	13	...	...	...	2	5
	Wilton Fever Hospital .	60	100	...	111	2	53	33	14	9	...
	Royal Hospital and Dispensary .....	60	130	...	75	...	7	5	8	46	9

The subjoined numbers have also to be taken into account

Deaths occurring outside Salford among persons belonging thereto.	Children's Hospital, Pendlebury .....	Beds. 160	Beds. 160	...	38	2	20	15	1	...	...
	Manchester Royal Infirmary .....	315	298	...	41	...	...	1	2	34	4
	Monsal Hospital.....	192	238	...	7	...	...	1	2	4	...
Deaths occurring in Salford among persons not belonging to the town ....					19	2	...	...	2	11	4

The subjoined numbers are the **Corrected Deaths** in the

		Pop. 1881	Pop. 1887								
Borough of Salford .....		176233	202731	6956	4856	1355	1011	250	232	1213	795
Registration Sub-Districts.	Regent Road .....	69716	82212	2933	1985	585	414	94	100	477	315
	Greengate .....	31867	31867	1154	1030	251	229	63	35	293	159
	Pendleton .....	43117	51096	1697	1150	324	227	55	57	285	202
	Broughton .....	31533	37556	1172	691	195	141	38	40	158	119

\* This institution was not opened until after 1881. In previous reports it has been incorrectly designated

DISTRICT OF SALFORD, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES,  
AND THE BIRTHS THEREIN DURING THE YEAR.

Mortality from subjoined causes, distinguishing deaths of children under five years of age.																					
	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Croup.	Whooping Cough	Typhus.	Enteric or T'ph'd	Other or Doubt'l	Diarrhea and Dysentery.	Cholera.	Rheumatic Fev.	Erysipelas	Pyæmia.	Puerperal Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Injuries.	Other Diseases.
Under 5...	..	300	44	1340	61	.	5	...	303	...	...	6	4	...	...	18	454	3	47	957	
5 upwards	..	16	31	65	3	1	45	1	15	1	23	4	3	8	...	342	493	209	56	692	
Under 5...	...	1	...	...	1	...	...	...	6	...	...	...	...	...	...	...	...	3	..	...	5
5 upwards	...	...	..	...	...	...	...	...	1	9	...	3	2	...	...	...	56	74	24	1	188
Under 5...	...	...	...	...	...	...	...	...	3	...	...	.	...	...	...	...	...	...	..	...	10
5 upwards	.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	2	1	...
Under 5...	..	3	51	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
5 upwards	...	...	28	...	...	...	...	20	...	...	.	...	1	...	...	...	2	1	..	...	4
Under 5...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	1
5 upwards	...	...	...	...	...	..	...	1	...	...	...	...	...	1	...	...	6	5	9	25	21

in judging of the mortality of the Sanitary District.

Under 5...	...	...	1	2	...	...	...	1	...	3	...	.	...	...	...	...	...	8	...	1	6
5 upwards	...	...	...	...	...	...	..	3	...	...	.	...	...	...	...	...	2	2	...	.	9
Under 5	.	...	...	...	..	...	...	...	...	...	...	.	...	...	...	...	...	...	...	...	...
5 upwards	...	.	...	...	...	...	...	...	...	...	...	...	1	...	...	...	7	3	6	7	17
Under 5...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5 upwards	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	..	...
Under 5...	...	...	...	...	..	...	...	...	...	...	...	.	...	...	...	...	...	...	.	...	2
5 upwards	...	...	...	...	...	..	...	1	...	...	...	...	...	...	...	...	...	3	2	4	7

**Borough**, and in the four **Sub-Registration Districts** thereof.

Under 5 . . .	304	96	1541	61	..	7	...	315	...	...	6	4	...	...	18	465	3	54	977
5 upwards ...	16	59	6 5	3	1	75	2	24	1	26	8	4	8	...	415	579	248	86	924
Under 5... ..	143	39	1 21	16	...	1	...	145	...	...	1	1	...	...	4	173	...	24	430
5 upwards ...	7	16	2 4	...	...	28	...	5	1	12	2	...	2	...	163	226	109	37	372
Under 5... ..	79	23	.. 9	12	...	4	...	64	...	...	2	1	...	...	3	85	2	19	177
5 upwards ...	4	20	1 .	..	1	14	1	12	...	5	3	...	2	..	106	148	37	18	178
Under 5... ..	34	19	7 9	23	...	2	...	65	...	...	2	2	...	...	10	139	1	8	230
5 upwards ...	3	10	2 ...	3	...	19	..	3	...	3	2	2	2	...	95	133	63	27	232
Under 5... ..	48	15	7 2	10	...	...	...	41	...	...	1	...	.	...	1	68	...	3	140
5 upwards ...	2	13	1 1	...	...	14	1	4	...	6	1	2	2	...	51	72	39	4	142

“The Hope Hospital,”



PRICES OF COAL, FLOUR, POTATOES, AND BUTCHER'S MEAT, AND THE  
NUMBER OF PAUPERS RELIEVED IN SALFORD—1873 TO 1887.

	AVERAGE PRICES OF FOOD AND FUEL.				PAUPERISM,		
	Coal, per ton.	Flour, per stone.	Potatoes, per load.	Butchr's Meat, per lb.	Weekly number of Paupers relieved,		
					Indoor.	Outdoor	Proportion to Population
	£ s. d.	£ s. d.	£ s. d.	d.			
1873	0 15 9 <sup>3</sup> / <sub>4</sub>	0 2 3	0 13 0 <sup>1</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>4</sub>	817	1711	1 in 53.
1874	0 16 1 <sup>3</sup> / <sub>4</sub>	0 2 2	0 11 4	7 <sup>1</sup> / <sub>2</sub>	853	1842	1 in 52
1875	0 12 4	0 1 7 <sup>1</sup> / <sub>2</sub>	0 10 6 <sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	872	1652	1 in 57
1876	0 11 6	0 1 9 <sup>1</sup> / <sub>4</sub>	0 10 7 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	944	1409	1 in 64
1877	0 10 5	0 2 1 <sup>1</sup> / <sub>2</sub>	Various.	7 <sup>1</sup> / <sub>4</sub>	1037	1662	1 in 57
1878	0 9 10	0 1 7 <sup>1</sup> / <sub>2</sub>	Various.	7 <sup>3</sup> / <sub>4</sub>	1146	2326	1 in 46
1879	0 7 5	0 1 11 <sup>1</sup> / <sub>2</sub>	0 14 0	6 <sup>3</sup> / <sub>4</sub>	1442	4023	1 in 30
1880	0 7 11	0 2 5 <sup>3</sup> / <sub>4</sub>	0 10 0	7 <sup>1</sup> / <sub>8</sub>	1559	3488	1 in 34
1881	0 7 8	0 1 8 <sup>3</sup> / <sub>4</sub>	0 10 0	7 <sup>1</sup> / <sub>4</sub>	1640	3039	1 in 38
1882	0 7 7	0 1 7 <sup>1</sup> / <sub>4</sub>	0 12 0	7 <sup>1</sup> / <sub>8</sub>	1379	2300	1 in 56
1883	0 7 7 <sup>1</sup> / <sub>2</sub>	0 1 6 <sup>3</sup> / <sub>4</sub>	0 7 0	6 <sup>3</sup> / <sub>4</sub>	1690	2237	1 in 49
1884	0 7 8 <sup>1</sup> / <sub>2</sub>	0 1 4 <sup>1</sup> / <sub>2</sub>	0 5 9	5 <sup>1</sup> / <sub>2</sub>	1645	2250	1 in 51
1885	0 7 7	0 1 3 <sup>1</sup> / <sub>4</sub>	0 6 4 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>4</sub>	1573	2297	1 in 50
1886	0 7 5	0 1 3	0 7 3	5 <sup>1</sup> / <sub>2</sub>	1624	2412	1 in 49
1887	0 7 6	0 1 2 <sup>1</sup> / <sub>2</sub>	0 9 10	5	1669	2016	1 in 55

WORK OF THE HEALTH  
DEPARTMENT.





# WORK OF THE HEALTH DEPARTMENT.

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*IV.—Summary of the action taken during the year—*

(1.) *for limiting the spread of infectious disease ;*

(2.) *for securing the abatement of nuisances.*

## (1.) **Compulsory Notification of Infectious Disease.**— SECTION IV.

The subject of compulsory notification of infectious disease has now been before the medical profession and the public for a considerable period, and the advocates and opponents of the several “systems” have recently had a fair opportunity of ventilating the subject in the medical press. No advantage can accrue from further controversy on the so-called “burning question,” which has been so warmly discussed of late in our leading periodicals. I am content to record, and to gratefully realise the fact, that, having had experience in my own borough of the concurrent advantages of disease notification and hospital isolation, for a period of more than five years, I find that these systems have been productive of substantial benefit to the health of the people, and that the advantages which we derive from notification accumulate steadily as time goes on. The public are gradually becoming more accustomed to the visits of the sanitary inspectors, and increasingly appreciative of the advantages of hospital treatment. During the period which has elapsed since the Salford Notification Act was first put into operation, more than eight thousand cases of dangerous infectious disease have been reported to the Health Department ; and of this total, not less than 43 per cent have been removed to hospital. The proportion of cases isolated has steadily increased year by year ; for, whereas in 1883, the first year of work under the Notification Act, only 26 per cent of the notified cases were removed to hospital, the proportion during the last two years has approached 50 per cent. But the removal of even this large proportion of the reported cases, and the subsequent disinfection of places and things, is not the only expedient which notification furnishes for the suppression of infectious disease. For, in the first place, and this is an important point, we are able to control the attendance at school, of infective children, by promptly communicating the fact of the existence of infection in a house containing school-children, to the master or mistress of the school attended. In the course of last year, 1,032 letters, having this

Experience of compulsory notification, in Salford and elsewhere

Considered as a means of promoting hospital isolation of the infectious sick



## SECTION IV.

Compulsory  
notification of  
infectious dis-  
ease

Salford experi-  
ence under the  
Act since 1882

object, were despatched by our health department. We also encourage the school authorities to report to the health office, on stamped forms gratuitously supplied, any cases of suspected concealment of infectious disease in houses containing children of school age, and thus we frequently obtain information of slight or of unrecognised cases, which might otherwise have led to serious diffusion of infection. And further, a vast amount of inspection of premises, has been carried out as a consequence of notification, which, without it, could scarcely have been accomplished; and the operations subsequently effected have, in numerous instances, led to the removal of causes of disease and of ill-health. Again, it is well to bear in mind, that the inspectors, in the course of their inquiries, frequently encounter timely evidence of other conditions, which in themselves are likely to lead to the dissemination of infection. Thus, for instance, it is not uncommon to find in a room in which the business of a dressmaker or that of a laundress is in active operation, a child suffering from diphtheria or scarlet fever, and being nursed by the parent, who devotes her intervals of leisure to some ordinary handicraft. Again, the inspectors frequently discover infective patients in dangerous proximity to milk supplies, exposed for public sale in premises probably too small, under the most favourable circumstances, for the safe storage of milk. In these and other instances, the list of which might be greatly extended, we are able to give advice, or to take steps, which are certain to be of service in protecting the public against many sorts of infection. It is needless to say that these useful functions would be impracticable, in default of the essential information which early notification supplies.

But the benefits which Salford and other protected towns derive from notification within their own territories, are seriously impaired by the exclusive and merely local application of their powers, which have no force beyond particular limits. Consequently, protected towns are perpetually liable to importations of infection from outside, though contiguous, districts, the authorities of which are at present under no obligation to protect either themselves or their neighbours from the spread of infectious disease.

Compulsory not-  
ification should  
be universal  
under statute  
law

Compulsory notification of infectious disease ought to form part of the statute law of the land; and the uncertainty and expense attendant on private bill legislation, which at present hampers sanitary authorities desirous of obtaining compulsory powers for this object, should forthwith be done away with. The Local Government Board have frequently been approached on this subject in recent years; and so great is the pressure which has been brought to bear on them, that, in the autumn of last year, the Board issued circulars to the authorities of the forty-eight

existing notification towns, asking for particulars and opinions, as to the working of the several Acts. The reply which was sent from Salford has been printed; and, inasmuch, as it shows the scope and general character of the questions proposed, I have inserted a reprint of it in the appendix to the present report.

## SECTION IV.

—  
Action of Local  
Government  
Board with res-  
pect to exten-  
sion of the  
system

The proposition that the sanitary authorities of the country, as the responsible guardians of the public health, ought to be kept constantly informed as to the presence of infectious disease in their several districts, is one upon which there is now practical unanimity amongst medical men. At the annual meeting of the British Medical Association, which was held in Brighton in 1886, the Public Medicine Section unanimously passed a resolution affirming the opinion of the section that even then, the time had fully arrived when the protection afforded to certain urban communities by local acts for the compulsory notification of infectious disease, should be extended to the population generally; and they therefore recommended the Council of the Association, at an early date, to consider the advisability of endeavouring to promote general legislation with this object in view. Since the passing of this resolution, two years ago, the education of public opinion on this important subject has progressed apace. The subject can no longer be said to be an exclusively medical one, and for this consummation, I for one am profoundly thankful. It gives me pleasure to record that at a meeting of that thoroughly representative body, the Association of Municipal Corporations, held in London, on the 8th of March last, the Mayor of Salford, Mr. Alderman Dickins, introduced the subject of compulsory notification, with a view of bringing pressure to bear upon the Government to introduce a measure for the extension of that system to the country generally. The Mayor was successful in obtaining the unanimous assent of that influential association to the following important resolution: "That a memorial be presented by this Association to the Local Government Board, praying them to introduce, or to give active support to, a Bill for the compulsory notification of infectious disease throughout the country generally." Very shortly after the passing of this resolution, a Bill with the above object in view was introduced into the House of Commons by Mr. Hastings, Dr. Farquharson, Mr. Francis Powell, and others; and the Bill advanced, I believe, as far as the second reading. For some unexplained reason, however, it was, withdrawn as the session drew towards a close, notwithstanding that the measure had received the cordial support of the Government. Whilst the above Bill was still before the House, awaiting its second reading, the following memorial, which was signed by thirty-two of the medical officers of health of existing notification towns, was forwarded to Mr. Ritchie, through Mr. F. S. Powell, M.P.

Memorial of  
Association of  
municipal cor-  
porations

Notification Bill  
introduced by  
Mr. Hastings  
Mr. Powell, &c.

Memorial of  
medical officers  
of health of  
existing notifi-  
cation towns



## SECTION IV.

Compulsory  
notification of in-  
fectious disease

Memorial of  
medical officers  
of health, to Pre-  
sident of Local  
Government  
Board

“TO THE RIGHT HONOURABLE CHARLES THOMSON  
RITCHIE, M.P.,

“*President of the Local Government Board.*

“The memorial of the undersigned respectfully sheweth :—

1. “That your memorialists are Medical Officers of Health holding appointments in towns already furnished with powers for the compulsory notification of infectious disease.

2. “That, after considerable experience, your memorialists are convinced (*a*) that the system of compulsory notification, when administered with faithfulness and tact, enables a sanitary authority effectually to protect itself against incursions of infectious disease ; and (*b*) that infectious disease, as it occurs in dense and poor populations, cannot be properly controlled, unless the local sanitary authorities are legally empowered to acquire prompt information of the earliest attacks of those diseases ; for in no other way is it possible to secure, either isolation, or the proper treatment of the sick poor.

3. “That your memorialists are pleased to find that a Bill, which has for its object the extension to the country generally of powers for the compulsory notification of infectious disease, has recently been submitted to the House of Commons by Mr. Hastings, Mr. Powell, and others. Your memorialists are also glad to notice that, at the instance of the Mayor of Salford, the Association of Municipal Corporations have unanimously agreed to memorialise the Local Government Board, either to give active support to this Bill, or to introduce a Government measure with a similar object in view. Your memorialists desire very cordially to support the prayer of the important Association referred to, and they respectfully ask you to lend the weight of your powerful influence to secure the general extension of compulsory notification throughout the country, and to facilitate the acquisition of compulsory powers by any sanitary authority, as provided for in Mr. Hastings’s Bill, and without the trouble and expense of promoting a private Bill in Parliament.

“And your memorialists will ever pray.

“Signed on behalf of the memorialists,

“JOHN TATHAM, B.A., M.D.,

“*Medical Officer of Health.*

“Town Hall, Salford,

“May 14th, 1888.”

Suggested deputa-  
tion to Presi-  
dent of L. G. B.

Mr. Ritchie has also been requested by the majority of the signatories to the above memorial to receive a deputation of medical officers of health, with the object of expressing to him

their views personally. We are still awaiting Mr. Ritchie's reply to this request. SECTION IV.

Scheme for  
registration of  
disease

**National Registration of Infectious Disease.**—And here I would advert once again, to a subject which is certainly complementary to that of compulsory notification, and which I believe to be of equal importance with it, both to the public health and to scientific medicine. I refer to the great need which exists for the establishment of a national system of disease registration, limited in the first instance, to that of dangerous infectious disease. I am, of course, aware that this is no novel proposal, but I think that the present time is peculiarly opportune for a revival of the scheme. Although powers for the compulsory notification of infectious disease exist in fifty-two important British towns, nevertheless, as far as I am aware, no machinery at present exists by means of which the local information may be published and rendered available for national preventive purposes. As an instance, however, of what is practicable in this direction, I may briefly relate the details of a successful private arrangement, which, with the co-operation of thirty-two of my colleagues in other notification towns, and with the approval of my own sanitary authority, I have been carrying out since the beginning of the current year. Early in January last, I wrote as follows, to the medical officers of health of all the British towns which at that time possessed powers for the compulsory notification of infectious disease.

“MY DEAR SIR,

“At their meeting this morning, the Health Committee of this borough had under anxious consideration the rumours now current with respect to the alarming spread of small-pox, scarcely a day passing on which we do not hear of the invasion by this disease of some previously uninfected town. Letter to medical officers of health of existing notification towns

“My Committee view with great concern the fact that, even between towns which possess powers for the compulsory notification of infectious disease, there exists at present no organisation by which one sanitary authority may receive timely warning of the existence of infectious disease in the district of a neighbouring authority. My Committee are of opinion that the collection and publication of this information at short (say weekly) intervals, is a duty which ought to be undertaken by the central authority. But, failing this, they direct me, on their behalf, to suggest to the sanitary authorities of other protected towns in this neighbourhood, that an arrangement should be provisionally adopted by which, to some extent, the object alluded to may be attained. I shall, therefore, be happy to forward you, at the termination of each successive week, a list of the cases of infectious disease reported to me under the Notification Act, and shall be



## SECTION IV.

Registration of  
infectious dis-  
ease

obliged if you will kindly favour me with similar weekly information respecting your own district. I have the pleasure of forwarding you herewith my return for last week, and beg to remain,

“ My Dear Sir,

“ Yours very faithfully,

“ JOHN TATHAM.

“ Salford, January 5th, 1888.”

To this appeal I received favourable replies from thirty-two health officers; and, thus powerfully supported, I set to work forthwith. With a view of rendering the circulation of local returns as little irksome as possible to my fellow contributors, I at once made arrangements for the tabulation, in my own office, of the weekly returns from the several towns, and the construction of a table which, by the aid of a copying-press, I am able to circulate, early in each week, to my several colleagues.

The object which I had in view in undertaking the collection and circulation of returns, as here described, was that of testing the practicability of establishing a Register of Infectious Disease. This practicability having been established, I at once took steps to introduce the matter to the notice of the Local Government Board, with the suggestion that they, as the central authority, should take the matter in hand, as a “going concern,” and relieve me of a duty which appeared to belong more fitly to a state department. In order to enlist the support of my colleagues in this appeal to headquarters, I addressed a communication to each of them asking their co-operation, as follows :—

“ My Dear Sir,

“ The project of collecting and circulating returns of infectious sickness, which, with the co-operation of my colleagues of the public health service, I have been privileged to carry out since the beginning of the year, has been very successful; and I hear from many correspondents that the timely information—especially as to small-pox incidence—which I have been the humble means of distributing, has proved of great assistance to the authorities concerned.

“ The data from the several towns have been regularly sent in, and I have been able to present a return to each of my contributors on the Thursday in each week. Situated, however, as I am—with a small and an over-worked clerical staff—you will easily understand that I should like to be relieved of my self-imposed duty, if only I could secure that it would be faithfully discharged by others. Whilst, therefore, I have no immediate intention of discontinuing the circulation of these returns, I think you will agree with me that the proper

Letter to medi-  
cal officers of  
health of exist-  
ing notification  
towns suggest-  
ing memorial to  
L. G. B.

authority to publish them is the Local Government Board ; and the object of the present letter is to ask you to help me to induce that Board to take upon themselves this important function.

SECTION IV.  
Letter suggest-  
ing memorial  
from S A's of  
notification  
towns to L. G. B

“If, therefore, you would obtain from your Health Committee an expression of opinion (in the form of a resolution to be forwarded to the President), affirming the desirability of the weekly publication by the Local Government Board, of sickness returns for the several notification towns, I think that the object would eventually be attained. I have myself obtained the concurrence of the Salford Health Committee in this view, and there is little doubt that if the Local Government Board found that a similar desire obtained amongst a considerable number of the notification authorities, the Board would accede to the request.

“Kindly send me a reply saying whether or not you will help me in this way ; and in the event of your consenting to do so, be good enough to obtain the resolution, and have it forwarded to the Board on the earliest practicable occasion.

“I remain, My Dear Sir,

“Yours very faithfully and obliged,

“JOHN TATHAM.

“Salford, March 9th, 1888.”

I also obtained from the Salford Health Committee the following resolution which was duly forwarded to the President of the Local Government Board :

“The Health Committee of this borough having had under consideration the representations of their Medical Officer of health on the subject of disease registration, are of opinion that a system of central registration of infectious disease is desirable (similar to that of the Registrar General in respect of deaths), whereby sanitary authorities of one ‘notification town’ may be warned in time of the approach of any infectious disease from other towns of the country. And this Committee therefore respectfully urges the Local Government Board to undertake the collection and publication of weekly returns of infectious sickness for all the towns which are provided with legal powers for the compulsory notification of infectious disease.”

Memorial to  
L. G. B. from  
sanitary author-  
ity of Salford

On the receipt of this resolution, together with a large number of similar communications from other notification towns, the Local Government Board addressed a circular of inquiry, not to the medical officers of health, but to the sanitary authorities themselves, of all the towns possessing notification powers, asking whether, in the event of the Board’s undertaking the publication of weekly returns of sickness, the authorities, individually, would agree to furnish the Board with the requisite local returns. I do



SECTION IV. not know the exact number of favourable replies which the Board received to their circular, but I have received assurances from several of my colleagues that the Board's proposal has met with general approval.

Registration of infectious disease

Why the Board should still hesitate to perform what would appear to outsiders a peculiarly appropriate function, it is a little difficult to understand. The suggestion, however, has been offered to the Board as a feasible one, and I hope shortly to see it carried into effect.

Isolation of infectious cases

**Hospital Isolation of Infectious Disease.**—In the course of the year under notice, one thousand and seventy-eight patients suffering from dangerous infectious disease, were maintained in hospital for the protection of the public health. Of this number 134 were already in hospital at the beginning of the year, 944 were admitted during the twelve months, and 100 remained in hospital at the close of the year. Of the total admissions, 874 were accommodated at Wilton Hospital, and the remainder either at Pendlebury or at Monsall. 703 of the admitted patients were certified to be suffering from scarlet fever, 153 from enteric fever, and 4 from small-pox.

Number isolated since opening of Wilton hospital

From the opening of our Fever Hospital in 1876, down to the end of 1887—not less than 5121 patients have been isolated by the Health Committee, for the protection of the Public Health. Of these, 4751 have been accommodated at Wilton Hospital, and the remainder, either at Monsal or at Pendlebury.

The following table shows the cost of maintenance of patients at Wilton Hospital during the year ending December 31st, 1887.

	£	s.	d.
Salaries of Resident Medical Officer and Matron ...	250	0	0
Wages of Nurses, &c.....	735	15	8
Rent, Rates, Taxes, and Insurance .....	360	1	6
Coal, Gas, Water, and Cleaning Materials .....	542	1	4
Meat, Provisions, and Groceries .....	1182	15	6
Medicine and Stimulants .....	518	8	0
Repairs and Alterations.....	153	1	0
Provender and Farriery.....	87	16	8
Printing, and Stationery .....	31	2	11
Collecting Hospital Charges .....	14	17	2
Clothing, Bedding, Surgical Instruments, &c.....	281	10	10
Stamps and Sundries .....	104	2	5
Funeral Expenses—Nurses .....	24	11	3
	4286	4	3
Maintenance of Patients in Monsall Hospital.....	634	9	4
	4920	13	7
Amount Received for Fees .....	516	10	6
	£4404	3	1

(52 Weeks ending December 31st, 1887.)

	WILTON HOSPITAL.				MONSAL & PENDLEBURY HOSPITALS				Total.
	Males.		Females.		Males.		Females.		
	Under 5	Over 5	Under 5	Over 5	Under 5	Over 5	Under 5	Over 5	
A.—Patients remaining in Hos- pital on Jan. 1st, 1887. affected with									
Small Pox .....	...	...	...	...	...	...	...	...	...
Measles .....	...	...	2	...	...	...	...	...	2
Scarlet Fever .....	17	33	29	37	1	...	...	...	117
Diphtheria .....	...	...	...	...	...	...	1	...	1
Typhus Fever .....	...	...	...	...	1	...	1	...	2
Enteric Fever.....	...	...	...	1	...	5	...	5	11
Other Acute Diseases .....	...	...	...	1	...	...	...	...	1
Total.....	17	33	31	39	2	5	2	5	134
B.—Admitted during the 52 Weeks ending Dec. 31st, 1887, affected with									
Small Pox .....	...	...	...	...	...	4	...	...	4
Measles .....	16	3	8	4	...	...	...	...	31
Scarlet Fever .....	124	203	133	242	...	1	...	...	703
Diphtheria .....	1	...	...	3	...	...	2	...	6
Typhus Fever.....	...	1	...	4	...	1	...	...	6
Enteric Fever.....	2	51	2	41	5	24	1	27	153
Other Acute Diseases .....	2	21	3	10	...	1	...	4	41
Total.....	145	279	146	304	5	31	3	31	944
Total under Treatment .....	162	312	177	343	7	36	5	36	1078
C.—Of the above there were discharged recovered from									
Small Pox .....	...	...	...	...	...	3	...	...	3
Measles .....	13	3	10	4	...	...	...	...	30
Scarlet Fever.....	101	201	125	234	...	1	...	...	662
Diphtheria .....	1	...	...	3	...	...	1	...	5
Typhus Fever.....	...	1	...	4	1	1	1	...	8
Enteric Fever.....	2	40	1	34	5	14	1	22	119
Other Acute Diseases .....	2	11	3	8	...	1	...	4	29
Total.....	119	256	139	287	6	20	3	26	856
D.—Died from									
Small Pox .....	...	...	...	...	...	...	...	...	...
Measles .....	3	...	...	...	...	...	...	...	3
Scarlet Fever .....	24	15	25	13	1	...	...	...	78
Diphtheria .....	...	...	...	...	...	...	2	...	2
Typhus Fever.....	...	...	...	...	...	...	...	...	...
Enteric Fever.....	...	11	1	8	...	11	...	...	31
Other Acute Diseases .....	...	7	...	1	...	...	...	...	8
Total.....	27	33	26	22	1	11	2	...	122
E.—Remaining in Hospital on Dec. 31st, 1887, affected with									
Small Pox .....	...	...	...	...	...	1	...	...	1
Measles .....	...	...	...	...	...	...	...	...	...
Scarlet Fever .....	16	20	12	32	...	...	...	...	80
Diphtheria .....	...	...	...	...	...	...	...	...	...
Typhus Fever .....	...	...	...	...	...	...	...	...	...
Enteric Fever.....	...	...	...	...	...	4	...	10	14
Other Acute Diseases .....	...	3	...	2	...	...	...	...	5
Total.....	16	23	12	34	...	5	...	10	100
Total under Treatment in 1887.	162	312	177	343	7	36	5	36	1078



## SECTION IV.

Washington  
Lyons high  
pressure steam  
disinfectors

**Disinfection and Destruction of Infected Clothing.**—In the course of last year, 1,010 parcels of infected bedding and clothing were removed from the homes of the people to the Wilton Hospital, and disinfected by high pressure steam; and 63 parcels of filthy and worthless clothing were removed and destroyed by the disinfecting staff. No charge is made to rate-payers, by the Corporation, for the disinfection of bedding and clothing, and it were much to be desired that the public would avail themselves more generally than they do, of this means for the suppression of infection.

Spread of infection through medium of school attendance

**Preventive Measures as applied to Elementary Schools.**—In the year under notice, the information which we have received under the Compulsory Notification Act has enabled the Health Department to exercise a salutary control over the spread of infectious disease through the medium of school attendance. It is well known that scarlet fever is one of the diseases which are most readily communicated from person to person under the conditions obtaining in a large school. During the year 1887, this disease has been exceptionally prevalent in Salford: more than a thousand of the reported cases having occurred in houses containing children in actual attendance at school. In all these cases therefore, intimation has been sent to the school masters or mistresses, drawing their attention to the existing danger, and recommending that no children should be received into school, from an infected house, until after the receipt of a certificate from the Medical Officer of Health, intimating that disinfection has been completed, and that, therefore, children may return to school without danger to their fellows.

It is satisfactory to note, that although infectious disease has been unusually prevalent in Salford during the last two years, it has, nevertheless, been found necessary to close a school, in no single instance.

Dangers of exposing infective persons

**Exposure of Infective Persons: Concealment of Sick Cases.**—I am constrained once more to direct attention to the gross carelessness still prevalent amongst the poor, in regard to the exposure of patients suffering from scarlet fever; for it is in consequence of such carelessness that this pestilence still continues to linger amongst us, in spite of the large amount of hospital isolation of sick patients which the Health Department succeeds in effecting. It is therefore necessary again to warn the public, that the provisions of the 124th section of the Public Health Act will be put in force against any person, whether parent or guardian, in charge of an infective patient, who exposes such patient contrary to the provisions of that Act. It has further come to my knowledge recently, that certain persons, with a view of concealing the existence of infectious diseases in their families, have been foolish enough to refuse to obtain medical assistance, lest the case should be reported to the authorities. It may be well, therefore, to give further publicity to

the fact, that the Act of Parliament under which medical men are required to notify, *also makes it imperative on parents and guardians, themselves to report to the Medical Officer of Health the existence of infectious disease in their houses*; so that evaders of the law cannot screen themselves from the consequences of illegal concealment by refusing to call in a doctor: for the Act expressly provides, that “*any person who shall offend against the provisions of this Act*”—that is, who conceals the existence of infectious disease,—“*unless ignorant thereof, the burden of the proof of which (ignorance) shall be on him*, shall be liable to a penalty of five pounds.” I shall not fail to see that this equitable provision is enforced.

SECTION IV.

Penalties for concealment of infective patients

2.—ACTION TAKEN IN 1887 FOR SECURING THE ABATEMENT OF NUISANCES.

**Systematic Inspection.**—The staff of inspectors employed in the Salford Health Department consists of a chief sanitary inspector and four district inspectors, one for each division of the borough. In addition to these, we have a veterinary inspector who supervises the meat supply of the borough, a smoke inspector, and an officer who divides his time equally between the inspection of canal boats and the administration of the Food and Drugs Act. It may be well to repeat, for the information of the public, that the inspectors attend at the Health Office every morning from 9 to 9-30 a.m., for the purpose of reporting to the Medical Officer of Health their proceedings of the previous day, and of taking his instructions thereupon. This hour has been selected for the attendance of the Inspectors, in order to meet the convenience of such persons as may wish to see the Inspectors on business, or to obtain their aid for the removal of patients to hospital. It is desirable that it should be generally understood that complaints are seldom likely to receive attention on the day of receipt by this department, unless they are lodged at the office before 9-30 in the morning, at which hour the Inspectors leave the office for their respective districts; their return, therefore, before a late hour of the day cannot always be depended upon. If possible, complaints should invariably be made by letter addressed to the Medical Officer of Health; they will then come under his personal notice, and will be promptly attended to by the proper officer. Those who are desirous of conferring with the Medical Officer of Health personally, will oblige by calling at his office before eleven o'clock in the morning.

Staff of Sanitary Inspectors

Hours of their attendance at the Health Office

As in previous reports, a table is inserted, at page 94, giving a detailed account of the work done by the Health Department during 1887. This table shows that more than thirty-two thousand visits have been paid during the year by the sanitary staff, and that in consequence of their action between eight and nine thousand nuisances, more or less injurious to health, have been removed from

Work of the Health Department



SECTION IV. amidst the homes of the people. The table also shows that under the supervision of the Inspectors 944 patients have been removed to the Fever Hospital, 1,073 parcels of infected bedding or clothing have been disinfected, and that 1,232 houses have been disinfected after the occurrence of infectious disease.

Work of the Health Department

Additional duties recently devolving on the inspectors

Apart from the extension of work which a large annual addition to the population naturally brings to a public department, there has been an extraordinary increase in the business of our Sanitary staff in recent years, in connection with the establishment of the fever hospital in 1876, and especially with the passing of the Act in 1882, for the compulsory notification of infectious disease. The following statement gives particulars and dates of the several new duties which have devolved upon the Health Department since the passing of the Public Health Act in 1875.

1. Removal to Hospital of patients suffering from infectious disease.—*Commenced 1876.*
2. Supervision of Noxious Trades.—*Commenced 1876.*
3. Registration of Dairies, Cowsheds and Milkshops.—*Commenced 1879.*
4. Duties under Compulsory Notification Act.—*Commenced 1882.*

The above-mentioned additional items of duty have been performed by the Sanitary Inspectors without increase in their number. The following functions have also been executed by the Health Department since the undermentioned dates: but two additional officers have been appointed for the work.

5. Supervision of Smoke nuisance, *transferred from the River Inspector and the Police, and Smoke Inspector appointed 1875.*
6. Adulteration of Foods and Drugs Act, *put in force 1875.*
7. Inspections under Canal Boats Act.—*Commenced, and Inspector appointed 1887.*

Inadequacy of present sanitary staff

The Committee will be well aware that notwithstanding this large augmentation in the work of the Health Inspectors since 1875, no addition has been made to their numbers during recent years; and they will scarcely be surprised to hear that under these circumstances, the inspecting staff is now inadequate for the work which it has to perform. Five years ago, I intimated to the Committee that the duties at that time superadded to the ordinary work of the Inspectors, would probably necessitate a revision of their work, but since that date, the labours of these officers have been further and very considerably increased in connection with the administration of the Act for the Notification of Infectious Disease.

Owing to the persistence of commercial depression in Salford, I have hitherto refrained from asking for an increase in the inspecting staff: and in order to devote as much as possible of the Inspectors' time to disease prevention, I have temporarily allowed to fall into abeyance the useful system of house to house inspection, which up to the last few years had been carried on in the borough, and which has recently been discontinued, solely for want of the requisite staff to carry on the work. I feel confident that the Committee will agree with me that at any rate some addition should at once be made to the present staff of Sanitary Inspectors, in order that the house to house Inspection of the borough, as required by the orders of the Local Government Board, may be resumed at an early date.

SECTION IV.  
Inadequacy of  
present inspect-  
ing staff

*V.—An account of supervision exercised, and of action taken, with regard to places and houses which the Sanitary Authority has power to regulate..*

**Supervision of Common Lodging-houses.**—At the end of 1887, there were 46 common lodging-houses\* on the Salford register, or 6 more than in the immediately preceding year. During the year 1887, the sanitary inspectors have paid eight hundred and ninety visits at night to the common lodging-houses of the borough. Generally speaking, the common lodging-houses have been well conducted, and kept in a healthy condition. Thirty-six cautions, for minor offences, were given during the year, and in three cases summonses were issued against unregistered lodging-house keepers, for taking in lodgers and overcrowding rooms which had not been registered. Three cases of infectious disease—namely, two of scarlatina and one of enteric fever—occurred in two of our common lodging-houses. The enteric fever case proved fatal before it was reported to us: the patient being an intemperate person, medical aid was not sought, until the case was hopeless. The cases of scarlet fever were promptly removed to hospital, and the premises were thoroughly disinfected, and no further spread of the disease in the infected houses has since taken place.

SECTION V.  
Sanitary super-  
vision

The weekly average number of persons who availed themselves of common lodging-house accommodation in Salford during the year, was 285 male and 41 female *regular lodgers*, and 1273† male and 230 female *casual lodgers*. All the common lodging-houses have been regularly cleansed and limewashed during the year,

---

\* Common lodging-houses on register, end of 1887 :—

District.	No. of houses.	No. of rooms.	Persons accommodated.
Regent Road.....	17	49	263
Greengate .....	19	94	723
Pendleton .....	10	26	93
Broughton .....	0	0	0
	<hr/>	<hr/>	<hr/>
Borough .....	46	169	1079

† In the year 1886, the average number of casual male lodgers did not exceed 1024.



SECTION V. according to regulations, and in ten cases, new bedsteads and  
Supervision of bedding have been provided, in lieu of old and defective double  
common lodging beds, which have been done away with.  
houses

**Houses Sub-let in Lodgings.\***—At the close of the year 1887, there were on the register 448 houses sub-let in lodgings, the registration of which, as common lodging-houses, is unfortunately not required by the regulations. In the course of the year, 61 previously registered persons discontinued the letting of lodgings, and the names of 47 persons were placed on the register during the year. In the course of their inspections, 106 of which were made at night, the sanitary inspectors were able to detect and punish many breaches of the regulations, in respect of lodging houses of this type. These sub-let houses ordinarily give great trouble to the Health Department, and are a constant source of danger to the public health. In the course of the year under notice, sixty-nine persons were found to be illegally letting lodgings without being registered according to the Act. On remonstrance by the inspectors, 50 of the defaulters at once discontinued the sub-letting of lodgings, 4 made application to be registered, and 15 made arrangements which placed them outside the reach of the regulations.

Sub let lodgings,  
under Sanitary  
Act of 1886

The following table shows the number of sub-let lodging-houses which became infected during the year 1887, together with particulars of the infectious cases occurring therein.

DISTRICT.	Number of Infected Houses.	Number of Cases of Sickness.						
		Total in Houses.		Small-pox.	Scar-let Fever.	Diph-theria.	En-teric Fever.	Puer-peral Fever.
		Regis-tered.	Un-regis-tered.					
Regent Road .....	39	17	36	2	35	—	16	—
Greengate .....	19	6	18	—	14	—	9	1
Pendleton .....	17	—	24	—	16	2	6	—
Broughton .....	8	—	13	—	9	—	4	—
<b>Borough Total .</b>	<b>83</b>	<b>23</b>	<b>91</b>	<b>2</b>	<b>74</b>	<b>2</b>	<b>35</b>	<b>1</b>

\* SUB-LET HOUSES ON REGISTER AT END OF 1887.

	Borough.	Regent Road.	Green-gate.	Pendle-ton.	Brough-ton.
Number on Register, end of 1886 .....	461	246	166	49	—
Registered in 1887 .....	47	18	22	7	—
Discontinued during the year.....	61	19	39	3	—
Remaining on Register.....	448	245	149	54	—

From the above figures we find that nearly 19 per cent of the houses known to have been let in lodgings, were invaded by infectious disease during the year 1887, whereas the proportion did not exceed five per cent in the other dwelling houses of Salford, which are not known to have contained lodgers. Of the 114 infectious cases detected in lodging-houses during the year, 70 were removed to hospital. And the houses and bedding were invariably disinfected, on the recovery of the patients, whether at home or in hospital.

## SECTION V.

Infectious disease in sub-let lodging houses

**Registration of Lodging-houses under Section 90 of the Salford Improvement Act.**—The 73 houses in the Regent Road district, which have been registered under this section, have been carefully kept under inspection during the years under notice—nineteen visits having been made to them at night time; and the chief sanitary inspector reports that they have been fairly well conducted during the year. As these houses are occupied mainly by persons of nomadic tendencies, who evince peculiarly destructive habits with regard to the houses they occupy, and amongst whom, typhus fever has been wont to appear again and again in recent previous years, their due supervision entails considerable trouble and responsibility on the sanitary inspectors who are charged with this duty. It were much to be wished, that a large portion of the lower class of lodging-houses in other parts of the borough could be subjected to the benign influence of this excellent regulation. No case of infectious disease has occurred in any of the 73 houses above mentioned during the year 1887.

Further experience of section 90 of the Salford Improvement Act.

**Caravans, Tents, &c., used as Dwellings.**—Since the passing, in 1885, of the “Housing of the Working Classes Act,” all the caravans which have visited the borough have been kept under inspection by this department, and during the year under present notice, 135 vans have been visited by the inspectors and carefully overhauled as regards their sanitary condition. Seven only of the vans were occupied by *bonâ fide* gypsies, the remaining 128 being tenanted by travelling showmen, very few of whom could justly lay claim to the title of gypsy. During the year under report, five notices have been served under the Public Health Act, for the discontinuance of overcrowding; and these have for the most part been attended to: but it has sometimes happened that on receipt of a notice requiring structural alterations, the vanmen have “moved on” to another place, in order to avoid the necessary expenditure of money. In one instance, in which removal to another town was temporarily delayed, the inspector found a small van thus occupied:—A man, his wife, and four children were huddled together in a space insufficient to afford them breathing room; but in addition to these, there were crouched round the stove in the same apartment, seven monkeys, four dogs, and several birds! It will easily be understood that the atmosphere of this van was found by the inspector

Registration of vans, tents, &amp;c. used for human habitation



SECTION V. to be “sickening.” The nuisance was lessened at our request, by  
Caravans, tents, removal of the quadrupeds and birds. This “happy family”  
&c. shortly afterwards removed to a district in which they were unlikely  
to suffer the “persecution” to which they had been subjected in  
Salford.

In no case during 1887, has it been necessary to summon the  
owners of vans for breaches of the Act.

Infectious dis-  
cases in vans,  
tents &c. On the private portion of the fair ground in Trinity Market,  
which belongs to Mr. Hardcastle, a man is employed to look after  
the ground, and keep it free from nuisance, especially when  
occupied by caravans. Only one case of infectious disease was  
discovered during the year amongst dwellers in the vans, and in  
this instance the patient, a little girl, who on discovery was found  
to be “peeling” after scarlet fever, was induced to go into  
Wilton Hospital, until recovery was complete. The van inhabited  
by this patient was thoroughly disinfected before removal from  
the borough.

Appointment of  
canal boats in-  
spector **Canal Boats Act.**—On May 12th, 1887, Mr. Henry Rider, up  
to that time Sanitary Inspector for the Regent Road district, was  
appointed Canal Boats Inspector under the Act; and also  
Inspector under the Food and Drugs Act—at a salary of £80 per  
annum, half his time being devoted to each of these duties.

With reference to the boat inspections, it should be mentioned  
that the number would have been increased, but that the canal  
traffic was entirely stopped from June 20th to September 6th,  
1887, the supply reservoirs having become quite dry, in conse-  
quence of the great drought.

Defects in canal  
boats The number of boats examined during 1887, was 1,466, of  
which, 151 were found to be defective, and to require the attention  
of the owners. The defects in the 151 faulty boats, were as  
follows :—

Cabins requiring re-painting .....	32
Manure boats deficient of bulk head .....	4
Dirty cabins, &c. ....	69
Errors in certificates.....	11
Registered numbers on boats indistinct .....	38
Boats deficient of pumps.....	2
Bilge water under cabin floors.....	7

The inspector reports, that in most cases the defects have  
been promptly attended to; and that, on the whole, he has met  
with civility from the boatmen. The School Board authorities  
have been made acquainted with every case in which children of  
school age have been found on board the boats.

Infectious dis-  
ease in canal  
boats Only two cases of infectious disease (measles) have been found  
on the boats during the year. The patients recovered in a few  
days. The cabins were fumigated by the inspector, with chlorine,

the beds, which were of chopped straw, were burnt, the linen, &c., was washed up, and the cabins were thoroughly cleansed. The same boats were again inspected about seven weeks subsequently, and it was found that there had been no further outbreak of the disease.

SECTION V.  
Administration  
of canal boats  
Act

**Dairies and Milkshops.**—The number of so-called “dairies and milkshops” in the borough is increasing apace. There are now 574 establishments answering to this description, on the Salford register, or an increase of 9 per cent in two years. The dairies and milkshops have been regularly visited during the year 1887, and 77 notices have been served in the course of the year requiring the limewashing of walls and ceilings, according to the regulations.

Supervision of  
milk supply

The following is a summary of the dairies and milkshops on the register.

	Borough.	Regent Road.	Green- gate.	Pendle- ton.	Brough- ton.
Number on Register, } end of 1886 .....	548	266	71	97	114
Registered in 1887 .....	59	10	24	1	24
Discontinued during } the year... ..	33	—	—	5	28
Remaining on Register } end of 1887 .....	574	276	95	93	110

Seven cases of dangerous infectious disease were discovered during 1887, in houses connected with registered milkshops: namely, five cases of scarlet fever, and two cases of typhoid fever. The two latter cases were nursed at home, but the milk business was removed to other premises during sickness. In four of the five scarlet fever cases, the patients were removed to hospital, and in the fifth case, the milk business was carried on in premises satisfactorily removed from the infected house.

Infectious dis-  
eases in houses  
licensed for the  
sale of milk

**Cowsheds and Shippons.**—At the end of 1887, there were 31 cowsheds and shippons on the Salford register, as compared with 33 at the end of 1886. Inspector Fordham has kept these establishments under careful supervision during the year, and he reports favourably as to their general condition.

**Private Slaughter-houses.**—At the end of 1887, there were 50 private slaughter-houses in the borough, or three less than in

The slaughter  
house nuisance



SECTION V.  
The slaughter  
house nuisance

1886. These have been frequently inspected by Mr. Fordham, M.R.C.V.S., of this department, who has done his best to secure compliance with the requirements of our local act relating to these places.

During the year 1887, the Health Committee have refused to grant licenses for certain proposed *new* slaughter-houses, and so far they have acted wisely ; but it is greatly to be desired that the Corporation should establish public abattoirs on an adequate scale, and then bring pressure to bear on the present occupiers of private slaughter-houses to induce, or even to compel them to discontinue their use. They are a great, and an unjustifiable nuisance, and their continuance amidst the crowded homes of the working classes is an anomaly, which ought to be forthwith rectified.

Supervision of  
the meat supply

**Seizure of Unwholesome Food.**—The following quantities of bad meat and other unwholesome commodities have been seized by the meat inspector during 1887.

UNWHOLESOME MEAT SEIZED AND DESTROYED IN 1887.

	No. of Seizures.	Tons.	Weight.			Lbs.
			Cwts.	Qrs.		
Beef.....	21 .....	4	18	0		23
Mutton .....	124 .....	3	11	0		2
Veal .....	46 .....	1	4	1		9
Pork and Bacon.....	5 .....	0	7	2		16
Fish ... ..	9 .....	0	13	3		3
Eggs .....	1 .....	0	3	3		5
	206	10	18	3		2

Analysis of food  
and Drugs

**Proceedings under the Adulteration Act.**—During the year 1887, Mr. Joseph Carter Bell, F.I.C., the Public Analyst for Salford, has examined 472 samples of food and drugs submitted to him by the inspector under the Act. The figures given below show the number of samples of the various commodities examined, and the proportion of adulteration detected in the several years since the appointment of the Public Analyst in 1875.

As in previous reports, a table\* is here given showing the number of milk samples taken by the inspector in 1887 from farmers' cans at the railway stations, as consigned to the retailers in Salford, but before actual delivery. Particulars are also given of the purity or otherwise of the samples analysed.

\* See page 86.

SAMPLES COLLECTED BY THE INSPECTOR UNDER THE "SALE OF FOOD  
AND DRUGS ACT," FROM 1875 TO 1887,

	Total.	Milk.	Butter.	Bread and Flour.	Drugs.	Gro- ceries.	Beer and Porter.	Wines and Spirits.	S'ndries
1875...	60	37	1	1	1	...	7	4	9
1876...	119	43	2	18	34	17	...	...	5
1877...	390	114	7	159	22	30	18	37	3
1878...	418	197	10	35	31	25	24	70	26
1879...	518	306	16	130	15	28	10	13	...
1880...	506	269	12	48	5	52	71	18	31
1881...	478	376	11	1	...	61	...	8	21
1882...	465	300	7	47	13	3	58	20	17
1883...	497	436	1	29	1	12	...	2	16
1884...	507	359	10	35	7	...	64	11	21
1885...	478	399	21	14	4	13	21	...	6
1886...	483	361	6	21	...	36	1	22	36
1887...	472	355	2	...	...	25	42	43	5

PERCENTAGE OF ARTICLES RETURNED AS ADULTERATED.

	Total.	Milk.	Butter.	Bread and Flour.	Drugs.	Gro- ceries.	Beer and Porter.	Wines and Spirits.	S'ndries
1875...	66.6	62.1	100.0	0.0	0.0	...	100.0	75.0	66.6
1876...	40.3	55.8	50.0	27.8	35.3	17.6	...	...	60.0
1877...	27.4	40.3	28.6	11.3	13.6	6.7	0.0	97.3	0.0
1878...	29.9	29.4	10.0	2.9	51.6	4.0	4.2	67.1	0.0
1879...	12.0	13.1	25.0	5.4	26.6	10.7	10.0	2.3	...
1880...	20.2	25.2	75.0	6.3	0.0	17.3	11.3	11.1	9.7
1881...	16.3	18.1	9.1	0.0	...	1.6	..	37.5	23.8
1882...	15.5	19.0	14.3	2.1	53.8	0.0	1.7	10.0	17.6
1883...	6.6	6.7	0.0	3.4	0.0	8.3	...	50.0	6.3
1884...	7.1	2.8	40.0	5.7	57.1	...	0.0	27.3	61.9
1885...	5.2	4.8	4.8	7.1	0.0	15.4	0.0	...	33.2
1886...	3.9	1.1	50.0	0.0	...	25.0	0.0	0.0	8.3
Average, 1877-86	14.4	16.0	25.7	4.4	25.3	9.9	3.4	33.6	17.9
1887...	8.7	9.9	0.0	...	...	8.0	2.4	7.0	0.0





*Particulars of Milk consigned to Salford Dealers by Farmers living outside the Borough, showing the number of samples taken at the Railway Stations before delivery, by the Salford Inspector, and the Analyst's Report on the quality of the Milk.—Continued.*

No.	Name and Address.	Result of Analysis.	Place of Delivery.
49	B. W., Tabley, Cheshire.....	Pure .....	Old Trafford Ry. Station
50	B. W., „ „ .....	Poor Milk.....	„ „
51	C. H., Thelwall, Warrington.....	Pure .....	„ „
52	M. P., Lymm, Cheshire.....	Robbed 25% of cream	„ „
53	H. J., Davenham.....	Robbed 45% of cream	„ „
54	S. E., Lostock.....	Pure .....	Pendleton Raily. Station
55	M. P., Lymm, Cheshire.....	Do. ....	Old Trafford Ry. Station
56	H. J., Davenham.....	Do. ....	„ „
57	H. J., „ .....	Do. ....	„ „
58	C. T., Thelwall, Warrington .....	Do. ....	„ „
59	H. J., Langho .....	Do. ....	Pendleton Raily. Station
60	G. G., Newsholme .....	Do. ....	„ „ „
61	T. J., Langho .....	Do. ....	„ „ „
62	O. H., Chatburn .....	Do. ....	„ „ „
63	G. S., Clitheroe .....	Do. ....	„ „ „
64	B. R., Chatburn .....	Do. ....	„ „ „
65	H. J., „ .....	Do. ....	„ „ „
66	O. T., „ .....	Do. ....	„ „ „
67	H. G., „ .....	Do. ....	„ „ „
68	P. W., Newsholme .....	Do. ....	„ „ „
69	W. J., Chatburn .....	Do. ....	„ „ „
70	H. J. H., „ .....	Do. ....	„ „ „
71	T. G., Yew Tree Farm .....	Do. ....	Lower Broughton.
72	T. G., Yew Tree Farm .....	Do. ....	„ „
73	J. T., Dunham Hill, Cheshire ...	Do. ....	Old Trafford Ry. Station
74	J. T., „ „ .....	Do. ....	„ „ „
75	J. T., „ „ .....	Do. ....	„ „ „
76	J. T., „ „ .....	Do. ....	„ „ „
77	M. T., Frodsham.....	Do. ....	„ „ „
78	L. M., „ .....	Do. ....	„ „ „
79	L. A., Preston Brook .....	Do. ....	Exchange Station.
80	M. J., Ince, Chester .....	Do. ....	Pendleton Raily. Station
81	M. J., „ „ .....	Do. ....	„ „ „
82	B. R., Norton, Chatburn .....	Poor .....	Ordsall Lane Ry. Station
83	S. J., Clitheroe .....	Pure .....	Pendleton Raily. Station
84	H. W., Langho, Chatburn.....	Do. ....	„ „ „
85	S. J., Whalley .....	Do. ....	„ „ „
86	H. J., Langho .....	Do. ....	„ „ „
87	H. C. J., Chelford .....	Do. ....	London Road.
88	G. H. J., Clitheroe .....	Do. ....	Pendleton Raily. Station
89	H. T., Gisburn.....	Do. ....	„ „ „
90	S. J., Clitheroe .....	Do. ....	„ „ „
91	S. J., Mobberley .....	Do. ....	Old Trafford Ry. Station
92	H. J., Over Peover.....	Do. ....	„ „
93	S. J., Mobberley.....	23% added water.....	„ „
94	W. J., Tabley .....	Pure .....	„ „
95	S. J., Mobberley .....	14% added water.....	„ „
96	P. R., Plumbley .....	Pure .....	„ „
97	S. J., Mobberley .....	25% added water.....	„ „



*Particulars of Milk consigned to Salford Dealers by Farmers living outside the Borough, showing the number of samples taken at the Railway Stations before delivery, by the Salford Inspector, and the Analyst's Report on the quality of the Milk.—Continued.*

No.	Name and Address.	Result of Analysis.	Place of Delivery.
98	S. J., Mobberley .....	25% added water.....	Old Trafford Ry. Station
99	H. J., Helmshore .....	Pure .....	Pendleton Raily. Station
100	J. T., Dunham Hill.....	Do. ....	Old Trafford Ry. Station
101	J. T., „ .....	Do. ....	„ „ „
102	J. T., „ .....	Do. ....	„ „ „
103	M. T., Kenyon.....	Do. ....	Ordsall Lane Ry. Station
104	J. J., Dunham Hill .....	Do. ....	Old Trafford Ry. Station
105	H. C., Warrington .....	Do. ....	„ „
106	W. J., Frodsham.....	Do. ....	„ „
107	W. J., „ .....	Do. ....	„ „
108	C. J. T., Gisburn.....	Do. ....	Pendleton Raily. Station
109	C. J. T., „ .....	Do. ....	„ „
110	G. T., Clitheroe .....	Do. ....	„ „
111	P. J., „ .....	Do. ....	„ „
112	H. J., Langho .....	Do. ....	„ „
113	J. H., Gisburn.....	Do. ....	„ „
114	N. S. H., Elsby, Cheshire .....	Do. ....	Old Trafford Ry. Station
115	N. S. H., „ „ .....	Do. ....	„ „
116	J. S., Dunham Old Hall.....	Do. ....	„ „
117	J. S., „ „ .....	Do. ....	„ „
118	H. H., Chelford .....	Do. ....	London Road.
119	W. H., Prestbury .....	Do. ....	„
120	M. T., Macclesfield .....	Do. ....	„
121	L. S., North Rode, Macclesfield .....	Do. ....	„
122	F. M. A., Congleton .....	Do. ....	„
123	M. J., Lymm .....	Do. ....	Old Trafford Ry. Station
124	J. H., Gisburn.....	Do. ....	Pendleton Raily. Station
125	P. T., Chatburn .....	Do. ....	„ „
126	G. T., Clitheroe .....	Do. ....	„ „
127	S. J., „ .....	Do. ....	„ „
128	B. R., „ .....	Do. ....	„ „
129	F. A., Gisburn.....	Do. ....	„ „
130	H. G., Chatburn .....	Do. ....	„ „
131	B. R., „ .....	Do. ....	„ „
132	T. J., Turton .....	Do. ....	„ „
133	M. E., Kenyon Junction .....	Do. ....	Ordsall Lane Ry. Station
134	J. T., Dunham Hill.....	Do. ....	„ „
135	D. P., Norton, Cheshire.....	Do. ....	„ „
136	J. T., Dunham Hill.....	Do. ....	Old Trafford Ry. Station
137	B. J., Caergwele .....	Do. ....	Ordsall Lane Ry. Station
138	B. R., Chatburn .....	Do. ....	Pendleton Raily. Station
139	B. R., „ .....	Do. ....	„ „

Supervision of Bakehouses.—The bakehouses on the Salford register numbered 101 at the end of 1887, or ten more than in the year immediately preceding. These establishments have been frequently inspected during the year, and the occupiers have been found generally complying with the regulations. Thirty notices have been served under the Act, requiring improvements in the ventilation, &c., of the bakehouses. All these requirements have been attended to. The amendment of the objectionable bakehouse in Regent Road, which was in abeyance at the date of my last report, has been accomplished in the course of the year 1887.

SECTION V,  
Registration of  
bakehouses

PARTICULARS AS TO BAKEHOUSES IN SALFORD AT THE END OF 1887.

Districts.	No. of Bake- houses.	Ovens.			Number of Persons employed.		
		No.	Description.		Men.	Women.	Boys.
			Flue.	Waggon			
Regent Road .	55	72	20	52	126	19	12
Greengate ...	11	16	3	13	23	1	7
Pendleton ...	20	26	8	18	27	7	10
Broughton ...	15	19	6	13	28	5	4
<b>Boro' Total .</b>	<b>101</b>	<b>133</b>	<b>37</b>	<b>96</b>	<b>204</b>	<b>32</b>	<b>33</b>

VI.—*An account of action taken by the Medical Officer of Health, or on his advice, during the year, in regard to Offensive Trades, and to Factories and Workshops.*

Smoke Nuisance.—In the course of the year 1887, Inspector Thompstone has taken 411 observations of the smoke emitted from the factory chimneys of the borough; and as a result, 16 persons have been summoned before the magistrates for negligently using properly constructed furnaces, and 6 for using furnaces not constructed.

SECTION VI,  
Offensive trades

The following table gives the number of boilers and furnaces in use within the four districts of the borough at the end of the



SECTION VI. year 1887, together with particulars as to smoke notices served  
Offensive trades under the Public Health Act, and under our Local Act.

NUMBER OF BOILERS AND FURNACES IN USE WITHIN THE FOUR  
DISTRICTS OF THE BOROUGH AT THE END OF 1887.

Registration Sub-Districts.	Boilers and Furnaces in use.		Notices to Properly Construct Furnaces.	
	Properly Constructed.	Improperly Constructed.	Number Served.	Number complied with.
Regent Road ...	123	88	53	20
Greengate.....	139	63	58	41
Pendleton.....	187	53	39	22
Broughton .....	27	19	10	6
<b>Borough Total.</b>	<b>476</b>	<b>223</b>	<b>160</b>	<b>89</b>

NUMBER OF BLACKSMITHS' FORGES IN SALFORD AT THE  
END OF 1887.

	Borough Total.	Regent Road.	Greengate.	Pendleton.	Broughton
Blacksmiths'Forges	60	22	17	12	9

Boiler power  
operating in Sal-  
ford

The estimated “nominal horse power” exercised by the  
boilers operating in Salford at the close of 1887, was about 24,681.  
This is an increase of horse power, as compared with the immed-  
iately preceding year, of 1,413. The greater part of this increase  
has taken place in the district of Pendleton, where the nominal  
horse power in use has increased from 7,694 in the year 1886 to

8,814 at the end of the year under present notice. This increase is partly attributable to a growing desire on the part of manufacturers generally, to comply with the requirements of the Corporation, with respect to smoke ; and the opportunity afforded by a slight improvement in trade during the year, has been utilised for the partial re-organization of the boiler-system of the district. Inspector Thompstone reports that the expedient of offering premiums to the engineers and stokers of steam boilers for careful and efficient firing, continues to work satisfactorily, and that it deserves further extension.

During the year 1887, the smoke inspector has severely reproved not less than 56 careless stokers and others for breaches of the regulations ; and in several instances incorrigibly careless or incompetent firemen have been discharged during the year. It affords me pleasure to acknowledge the courteous response of the committee to my request, that Inspector Thompstone should be relieved of his duties under the Food and Drugs Act. Mr. Thompstone now devotes the whole of his time to the supervision of the smoke nuisance, a duty which keeps him very fully and most profitably occupied.

**Brick-burning Nuisance.**—There are now five fields within the borough in which brick-burning is carried on, namely : two in Pendleton, one in Salford, and one in Broughton. It is satisfactory to find that no nuisance of a serious character has been complained of as emanating from these brick-kilns during the year.

**General Supervision of Offensive Trades.**—During the year under notice, 69 establishments, technically answering to the description of offensive trades, have received the supervision of the inspectors during the year under notice, as compared with 62 in 1886. The following table shows the distribution of these establishments in the several districts of the borough.

#### OFFENSIVE TRADES, END OF 1887.

	Regent Road.	Green- gate.	Pendle- ton.	Brough- ton
Rubber Works .....	1	2	1	1
Tanneries .....	1	1	1	0
Oil and Tallow Works .....	2	5	1	0
Floor Cloth Works.....	0	2	0	0
Varnish or Tar Distilleries.....	1	3	1	0
Rop Cleaning Works .....	4	1	0	0
Tripe Dressing Works .....	11	6	3	0
Telegraph Cable Works... ..	0	2	0	0

SECTION IV.  
Offensive trades

Nuisance from  
brick-kilns



SECTION VI.

OFFENSIVE TRADES, END OF 1887.—(*Continued.*)

General super-  
vision of offen-  
sive trades

	Regent Road.	Green- gate.	Pendle- ton.	Brough- ton.
Soap Works .....	1	0	1	0
Paper Works .....	1	0	1	1
Albumen Works.....	0	0	0	1
Chemical Works .....	3	3	2	0
Potted Meat or Brawn Manu- facturers ... ..	3	0	1	1

All these establishments have been kept under supervision as far as possible, having regard to the limited number of the staff available for inspection. There seems to be a general desire on the part of the proprietors of these several establishments, so to conduct their business as to give the least possible cause for complaint.

*Record of Cases taken before the Magistrates during 1887, with the result of proceedings.*

Particulars of Complaint.	No. of Cases.	How Disposed of.	Amount of Fines.
			£ s. d.
Adulteration of Food .....	19	{ Nine fined, in all £19 10s.; five withdrawn; four dismissed; and one to pay costs }	19 10 0
Exposing diseased meat for sale.	6	{ Five fined, in all £25; one dismissed .....	25 0 0
Dressing animal in unlicensed } premises .....	1	Fined £1 .....	1 0 0
Offences against Contagious } Diseases (Animals) Act..... }	1	Fined 2s. 6d.....	0 2 6
Using furnaces not constructed } to consume their own smoke. }	6	{ Three fined, in all £12; two dismissed; and one with- drawn .....	12 0 0
Negligently using furnances } constructed to consume their own smoke .....	16	{ Ten fined, in all £20 15s.; four withdrawn; two dismissed }	20 15 0
Keeping Common Lodging- } house without being regis- tered .....	1	Fined 10s.....	0 10 0
Letting houses in lodgings } without being registered ... }	9	{ Eight fined, in all £1 6s. 6d.; one withdrawn .....	1 6 6
Overcrowding registered lodge- } ing-house .....	1	Fined 1s. ....	0 1 0
Commencing offensive trade, } without permission of local Authority .....	1	Fined £2 .....	2 0 0
Removing offensive matter } during prohibited hours... .. }	5	{ Four fined £1 10s.; one not served .....	1 10 0
Assaulting Inspector .....	1	Fined £1 .....	1 0 0
Premises in such a state as to } be a nuisance .....	19	{ Eight orders to abate; seven withdrawn; and four dis- missed .....	.....
	86		84 15 0



PARTICULARS OF WORK DONE BY THE HEALTH DEPARTMENT  
DURING THE YEAR 1887.

	Borough.	Regent Road.	Greengate.	Pendleton.	Broughton	
No. of Complaints lodged at Health Office	2833	677	513	400	1243	
Inspections made.	Of Dwelling-houses .....	10509	3795	2713	2677	1324
	„ Lodging-houses .....	2603	886	1245	472	...
	„ Slaughter-houses .....	2601	1250	288	761	302
	„ Shippons .....	959	125	...	308	426
	„ Dairies and Milkshops .....	322	89	111	24	98
	„ Bakehouses .....	258	177	15	31	35
	By Smoke Inspector—Observations taken .....	411	78	156	138	39
	Under Adulteration Act—Samples collected for Analysis .....	463	171	86	131	75
	By Meat Inspector—Seizures made .....	206	196	2	4	4
	Miscellaneous Sanitary Inspections .....	3087	697	791	789	810
	Re-Inspections after Notice .....	11521	4085	3817	1683	1936
Total Inspections made by Staff ...	32940	11549	9224	7018	5049	
Orders issued for Abatement of Nuisances	3363	1143	915	768	537	
Letters written for ditto .....	2477	808	647	510	512	
Nuisances abated pursuant to order.	Houses and Premises, cleansed repaired or Limewashed .....	1119	285	334	262	238
	Houses disinfected after infectious disease .....	1232	443	310	247	232
	House Drains repaired, trapped, or disconnected .....	1305	436	501	271	97
	Ashpits and Privies repaired or reconstructed .....	774	241	242	209	82
	Accumulations of Manure removed.	128	52	16	39	21
	Ashpits attended to after complaint .....	2832	563	490	463	1316
	Improperly kept Animals removed .....	28	7	4	13	4
	Overcrowding of Dwellings abated .....	32	9	12	6	5
	Passages and Yards repaired, drained or flagged .....	1272	358	517	267	130
	Total number of Nuisances abated	8722	2394	2426	1777	2125
	* Regularly Inspected.	Lodging-houses { Common .....	46	17	19	10
„ { Sublet in Ap'ts .....		448	245	149	54	...
Slaughter-houses .....		50	24	6	15	5
Dairies and Milkshops .....		574	276	95	93	110
Shippons .....		31	5	11	...	15
Bakehouses .....		101	55	11	20	15
Marine and Second-hand Stores .....		136	55	40	29	12
Patients removed to Fever Hospitals ...	944	378	205	233	128	
Infected bedding and clothing disinfected .....	1010	339	245	209	217	
Infected bedding destroyed .....	63	15	27	16	5	
Legal proceedings taken (see page 93)	...	...	...	...	...	

\* The figures in this section represent the number on the registers at the end of the year 1887.

# APPENDIX.





# APPENDIX.

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- I.—Special Report of the Medical Officer of Health, on the Compulsory Notification of Infectious Disease.
- II.—Special Report of the Medical Officer of Health, on the Bolton Lodge Estate as a site for a Fever Hospital.





APPENDIX I.

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

ON THE

COMPULSORY NOTIFICATION

OF

INFECTIOUS DISEASE.

---

1887.



“COMPULSORY NOTIFICATION OF INFECTIOUS DISEASES.

“LOCAL GOVERNMENT BOARD,

“WHITEHALL, S. W.,

“5th December, 1887.

‘SIR,

“I am directed by the Local Government Board to state that they have under consideration the question of the extension of the system of compulsory notification of infectious diseases, and they are desirous of obtaining information as to the working of this system in the towns where it is already in force under local Acts. With this object, the Board would be glad to learn, as regards the district of each such Sanitary Authority.—

(1.) “How many cases of each of the specified diseases were notified to the authority (*a*) in the year 1886, and (*b*) during the first eleven months of the present year?

(2.) “What procedure is adopted on the receipt of the notification?

(3.) “Whether it is believed that to any considerable extent there has been a failure to give the requisite notification?

(4.) “What are the practical difficulties, if any, which have arisen in connection with the system?

(5.) “What is believed to be the general result as regards the limitation of the spread of infectious disease?

(6.) “In what points, if any, the system appears to require amendment?

“The Board request that the Sanitary Authority will be so good as to call on their Medical Officer of Health to embody information on the above points in a special report, and to send a copy to the Board as soon as practicable.

“The Board will be obliged by being furnished at the same time with information as to the expense attending the working of the system, and also with any observations and suggestions which the Sanitary Authority think may assist the Board in their consideration of the subject generally.

“I am, Sir,

“Your obedient Servant,

“HUGH OWEN,

“The Town Clerk,  
“Town Hall, Salford.”

“*Secretary.*”

“A copy of this Letter is enclosed for the use of the Medical Officer of Health.”

## BOROUGH OF SALFORD.

### COMPULSORY NOTIFICATION OF INFECTIOUS DISEASE.

#### REPORT OF THE MEDICAL OFFICER OF HEALTH, EMBODYING ANSWERS TO THE QUESTIONS ADDRESSED TO THE HEALTH COMMITTEE BY THE LOCAL GOVERNMENT BOARD.

##### I.—Cases of each of the specified diseases notified to the Authority—

(a) In the year 1886, and

(b) In the first eleven months of 1887.

	1886.	Jan. to Nov., inclusive, 1887.
Small-pox .....	0	3
Scarlet Fever.....	1536	1306
Diphtheria.....	41	73
Typhus Fever .....	5	6
Enteric Fever .....	288	338
Puerperal Fever ...	12	11
Cholera .....	0	0
Total .....	1882	1737

Estimated population of Salford, middle of 1887,—200,241.

##### II.—Proceedings adopted on receipt of notification :—

The District Sanitary Inspector (and in certain cases the Medical Officer of Health likewise) at once visits the infected house, and recommends the adoption of precautions against the spread of contagion. He also fills

up a printed form (see Form B), with the following particulars, for the information of the Medical Officer of Health :—

- (A) *In all cases.*—1. The date of information and of present attack ;  
 2. The condition of patient as regards isolation ;  
 3. The probable cause of illness ;  
 4. The sanitary condition of premises (in detail) ;  
 5. The source of the milk supply.
- (B) *In cases of Scarlet Fever, Small-pox, and Diphtheria* (additional).—  
 6. Number of susceptible persons in house ;  
 7. Number of children in attendance at school, and  
     of adults who work away from home ;  
 8. Date of eruption in Small-pox, and of rash in  
     Scarlet Fever.
- (C) *In case of Small-pox.*—  
 9. Condition of inmates as to vaccination and re-  
     vaccination.

In all cases where the means of isolation in the patient's home are unsatisfactory, removal to hospital is recommended. And so great has been our success in this direction, that of the total number of patients reported to us as sick, we are now able to secure the isolation in hospital of *more than half*; although, as yet, application has never been made to the magistrates for an order for compulsory removal to hospital.

*In cases where removal to hospital is objected to—*

Printed circulars (see Forms G and G I) are left at the infected house (and in case of Scarlet Fever and Small-pox, at every other house in the same street), cautioning against,—

(A) *The illegal exposure* of the patient, either in the street or by sending him, whilst still infective, to school.

(B) *The illegal concealment of infectious cases*; and especially warning householders that they cannot escape their *personal liability* to report cases by refusing to call in a medical man; because the Act imposes the same obligation on householders and on medical men alike.



Printed directions are also left at the infected house, indicating the best measures to be adopted for preventing the spread of infection to other members of the same family.

In all cases where children in attendance at school are found in a house infected with Scarlet Fever, Diphtheria, Typhus, or Small-pox, notification of the fact is at once sent to the authorities of the school concerned.

*In cases where removal to hospital is agreed to.*

The Sanitary Inspector, on obtaining the consent of parents or guardians for the removal of a case to hospital, himself superintends the removal, which is effected in a suitably-constructed ambulance belonging to the Corporation. This done, he at once removes and secures the disinfection of the bedding, by means of high-pressure steam; and forthwith proceeds to disinfect the rooms occupied by the sick person, and to adopt whatever other precautions are feasible for preventing the further spread of contagion.

*On the completion of a case at home.*

Medical men practicing in the borough are supplied with post cards, addressed to the Health Department, which they are requested to forward thither, on the completion of each infectious case. Purification of the infected bedding and clothing by superheated steam; and disinfection of rooms is then effected by the Officers of the Corporation, as described in the last paragraph.

NOTE.—In all cases of Scarlet Fever, Diphtheria, Small-pox, and Typhus, the rooms are first fumigated thoroughly with chlorine, and after this the walls are stripped of paper, and, together with the ceiling, are dressed with a ten per cent. solution of caustic soda. In the case of other infectious diseases, fumigation alone is considered sufficient.

In all cases, on the completion of disinfection after a case of infectious disease, a *certificate* to that effect signed by the *Medical Officer of Health*, (see Form F) is given by the Inspector to the parents or guardians concerned, for presentation to the authorities of the school attended by the family.

About *twenty-one days* after the disinfection of each house, the Inspector pays a *confirmatory visit*, to assure himself that no further spread of the disease has occurred since the operation of disinfection was completed.

The *printed form* before mentioned, copy of which is appended, contains a complete record of the dates and other particulars relating to the notification, the several inspections, the removal to hospital, or otherwise, the disinfection of bedding and house, the service of school certificate, and the confirmatory visit, in the case of every notified attack. These forms are at once filed and indexed for future reference.

III.—There is no reason to believe that to any serious extent, there has been failure to give information to the Medical Officer of Health, as to the occurrence of infectious attacks, at any rate where the cases have been well marked, and under medical care. I believe that, as a rule, medical men loyally support the Health Department in their duties under the Notification Act.

IV.—The few practical difficulties which have been met with in connection with notification, are mainly those arising from the ignorance or the people respecting the dangerous character of infectious disease, and these difficulties are gradually disappearing under the *system of sanitary education* now in vogue, details of which are given in the answer to question 2.

Our chief difficulty is encountered in our endeavours to prevent the exposure of children at school and elsewhere, who are suffering from mild attacks of Scarlatina, Diphtheria, etc. I do not believe that this exposure is wilful: it appears to me to be due simply to ignorance. The persons who give us most trouble in this respect, are those who have recently migrated hither from *non-notification towns*; for these people are, as a rule, wholly ignorant of the dangers of exposure, and correspondingly impatient of restraint on what they are pleased to consider the “liberty of the subject.”

V.—*General results*, with respect to the limitation of the spread of infectious disease.

As regards Small-pox and Typhus, we have had abundant evidence of the value of notification and hospital isolation as a means of limiting the

spread of disease. Not less than seven separate importations of the former disease, and six of the latter, have taken place since the Notification Act was passed five years ago, and yet in no single instance has either of these diseases obtained a foothold in Salford ; whereas, in the five years, preceding the Notification Act, but during which we nevertheless possessed the advantage of hospital accommodation, these diseases invariably spread, and the extermination was only effected after considerable difficulty, and after a serious amount of mischief had been done.

In the case of Scarlet Fever, a sufficient time has not yet elapsed for the formulation of trustworthy evidence based on *reported cases* of sickness, but the *death-rate* from Scarlet Fever since the Notification Act came into force has been lower than during the immediately preceding quinquennium by not less than 38 per cent.

This question has been more fully dealt with in my report on the Compulsory Notification of Infectious Disease on page 57 *et seq.*, of my report on the Health of Salford, for the year 1886, copy of which has been sent to the Local Government Board. Nothing having transpired since the issue of that report to modify my opinion on the subject there expressed, I beg respectfully to refer the Board to the report alluded to, for a fuller consideration of the subject as it affects Salford.

#### VI.—Points in which the system requires amendment.

The main defects in the system of Disease Notification, as at present carried out in England, appear to me to be the following—

(1.) The *merely local*, and the *purely permissive character* of existing legislation on the subject ; and

(2.) The absence of any *system of central registration* (similar to that of the Registrar General in respect of deaths) whereby the Sanitary Authorities of one protected town or area may be warned in time, of the approach of any given form of disease from other and perhaps remote parts of the country.

(1.) As regards the first of these defects—it seems unfair, to say the least of it, that a right minded authority, which has taken every means for the protection of its own people—including the acquisition of notification powers, and the provision of hospital accommodation for the repression of



infectious disease—should be constantly exposed to importations of infection from disaffected and short-sighted outside authorities, whose domains are nevertheless in immediate and perilous proximity. Salford speaks feelingly on this subject, for she has on more than one occasion been compelled to ask the friendly intervention of the Local Government Board, for her own protection against importations of pestilences from the unprotected district of a certain Sanitary Authority on her borders.

(2) With respect to the second defect here referred to:—I sincerely trust, that in the interest of Public Health, and of economy, this defect will be speedily remedied. If the weekly publication by the Registrar General, of the *deaths* from the several infectious diseases, in the various great towns, be desirable for the protection of the Public Health, how much rather must a similar publication of the *sick cases*, as they occur, be serviceable in the same direction.

To take as an illustration, a case which at this moment is considerably embarrassing our Sanitary Authority. It will probably be within the Board's cognisance that for some months past Small-pox has been "raging" at Sheffield, a non-notification town between which and this Borough there is close and even daily intercommunication, and yet we know nothing of the occurrence, beyond what can be gleaned from an occasional newspaper paragraph, or too tardily from the weekly *death returns* of the Registrar General. By yesterday's newspaper the alarming intelligence was received here that Small-pox had already made its way hitherward from Sheffield as far as Warrington, where it is now causing great anxiety to the authorities. The pestilence has now arrived to within a dozen miles of our own town, and last week we ourselves were favoured with the first imported case from Sheffield. Surely there ought to be some official medium for the circulation of this vital information, more reliable than that of a chance paragraph in a newspaper.

There are now about fifty of our English towns possessing Notification Acts, and I feel certain that if the Local Government Board or the Registrar General's Department, would undertake the collection and publication of weekly returns of infectious sickness from these protected areas, many unprotected authorities who are at present hesitating, would, in self defence shortly ask to be clothed with similar powers.

JOHN TATHAM, B.A., M.D.

# FORMS USED IN THE SALFORD HEALTH DEPARTMENT

## IN CONNECTION WITH THE NOTIFICATION OF INFECTIOUS DISEASES.

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FORM A.—Statutory form of Medical Certificate under the Act.

FORM B.—To be filled up in each case by the Sanitary Inspector.

FORM C.—Cautionary circulars sent by Medical Officer of Health to School Authority.

FORM D.—Copy of Post Card, supplied to Medical Practitioners, to be forwarded by them to Medical Officer of Health on completion of sickness.

FORM E.—Special circular by Medical Officer of Health to Schoolmasters, &c.—to be forwarded to Medical Officer of Health in case of suspected concealment of infectious disease,—

[Copy of post card issued to Schoolmaster for this purpose.]

FORM F.—Certificate of freedom from infection for transmission to School Authority, after disinfection of house by Sanitary Authority.

FORM G.—Warning by Medical Officer of Health *re* “Scarlet Fever.”

FORM G<sup>1</sup>.— Do. do. *re* “Small Pox.”

FORM H.—Daily list of infected houses, forwarded by Medical Officer of Health to Public Libraries.

**Form A.**

Statutory Form of Medical Certificate under the Local Act.

*Counterfoil for the use of  
Medical Attendant.*

BOROUGH OF SALFORD.

Salford Provisional Order, 1882.

## CERTIFICATE OF DISEASE.

To the Corporation of the Borough of Salford.

Certificate forwarded to  
Medical Officer of Health  
at      o'clock on the  
day of                      188I hereby Certify and declare that, in my  
opinion, the undermentioned person is suffering  
from an infectious disease within the terms of  
the above Order.

Dated the              day of                      18

Signed,

Name of Patient

Name of person suffering }  
from the disease.

Address of do.

Situation of the building }  
wherein such person is }Name of Occu- }  
pier, or person }  
in charge }Name of occupier or other }  
person having the charge }  
management, or control }  
of the building or room. }

Nature of Disease

Nature of the disease.

NOTE. — This certificate must (under a penalty  
of £5 in case of neglect) be forthwith sent to  
the Medical Officer of Health, at his Office at  
the Town Hall, Salford.



SCARLET FEVER.

Name	Age	Enum. District
Family		Lodger

Size of House

Medical Attendant

Notified at \_\_\_\_\_ o'clock on the \_\_\_\_\_ 188

Ages. M. F.		Occupation.	Place of Work, or School.	S. F. History*	Date of Rash.	Last at work.

How isolated

Nursed by

### Other duties of Nurse

Hospital

Number and date of previous cases

## Milk supply

Schoolmaster written

### Bedding requiring removal

Probable source of infection

Signed

Inspector.

Date \_\_\_\_\_

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Improvement in isolation	$\left\{ \begin{array}{l} \text{When effected} \\ \text{Nature of} \end{array} \right.$
--------------------------	---

Date of fumigation

Date of stripping rooms

Bedding sent for

## Rooms stripped

Confirmatory inspection	{ Date of Result
-------------------------	------------------

$$\text{Termination of case} \begin{cases} \text{Date of recovery} \\ \text{Date of death} \end{cases}$$

[MEMO: Forms for other Diseases are simply modifications of the above.]

**Form C.**

Cautionary circular sent by Medical Officer of Health, to School Authority.

---

The Sanitary Inspector for your district reports that  
is present at No. \_\_\_\_\_ which I am informed is the residence of  
one of the pupils in attendance at your School.

I would suggest, in the interest of the public Health, that you should  
not receive into your School any pupils from this house until it has been  
certified free from infection.

I am,

Yours faithfully,,

JOHN TATHAM, M.D.

Medical Officer of Health.

To the School  
of \_\_\_\_\_

School,

---

**Form D.**

Copy of Post Card supplied to Medical Practitioners to be forwarded to  
Medical Officer of Health on completion of sickness.

---

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To the Medical Officer of Health,

Dear Sir,

I have to inform you that the patient at \_\_\_\_\_ Street,  
has now recovered from \_\_\_\_\_ and that the house and bedding  
now require disinfection.

Signed,

**Form E.**

Circular by Medical Officer of Health to Schoolmaster, &amp;c.

Town Hall, Salford,

18

Dear Sir (or Madam,)

You are doubtless aware of the fact that infectious disease is especially prevalent amongst children of school age, and that children are frequently allowed to attend school from homes which are infected with Small-pox, Scarlatina, Diphtheria, &c.,—thereby running great risk of carrying the infective germs in their clothes and communicating disease to their school-fellows.

It is certain that parents sometimes neglect to call in a medical man, in event of slight attacks of infectious disease, and therefore the Health Department fails to receive such information as will enable it to communicate timely warning to the school authorities.

I now, therefore, write to ask you to kindly inform me by post card, in the event of the absence from school of any child on your attendance roll, on account of Small-pox, Scarlatina, Diphtheria, or Fever. On receipt of this, the Sanitary Inspector will at once visit the house and take precautions against the spread of infection; and I shall be in a position to afford you reliable information as to the state of health of the child in question, and to furnish you with a certificate which may be presented to the School Inspector.

I have the pleasure of forwarding you herewith, half-a-dozen addressed post cards, which I hope you will do me the favour to use as above indicated; and I shall be glad to forward you more post-cards on hearing from you that the present supply is exhausted.

I remain,

Yours very faithfully and obliged,

JOHN TATHAM, M.D.,

Medical Officer of Health.

To

School.



[Copy of post card supplied to Schoolmasters, &c., to be forwarded to the Medical Officer of Health, in case of suspected concealment of infectious disease.]

To the Medical Officer of Health,  
Town Hall,  
Salford.

.....Day School,

18

I beg to inform you that a child on the roll of this school, residing at is now absent from school, and that there is reason to suspect that h absence is due to illness of an infectious character, namely,\*

Teacher.

\* Notification is desired only on the occurrence of Small-pox, Scarlatina, Diphtheria, or Fever.

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**Form F.**

Certificate of freedom from infection, for transmission to School Authority, after disinfection of house by Sanitary Authority.

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HEALTH DEPARTMENT.

---

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I hereby certify that the house situate the home of has been duly disinfected by the Officers of the Salford Health Department.

JOHN TATHAM, M.D.,

Medical Officer of Health

**Form G.**

Warning by the Medical Officer of Health, *re* Scarlet Fever.

---

**SCARLET FEVER.**

The Medical Officer of Health desires to intimate that Scarlet Fever still continues to spread in this neighbourhood, by reason of the carelessness of parents and others in exposing children already suffering from that disease.

The Health Committee of Salford are determined, if possible, to arrest the spread of this dangerous malady: and they therefore direct your attention to the following provisions of the law, and to the accompanying items of advice with reference to Scarlet Fever. These legal provisions will be rigorously enforced.

1.—If Scarlet Fever (or Scarlatina) occurs in your house you are bound, as the occupier thereof, yourself to report the fact forthwith to the Medical Officer of Health. Neglect to comply with this provision will render you liable to a heavy penalty.

2.—In case you suspect that an inmate of your house is suffering from Scarlet Fever, you should at once call in a medical man, who will report the case, on your behalf, if necessary. But you cannot evade your own liability to report the case by neglecting to call in a medical attendant; for the plea of ignorance as to its nature, will not be accepted as an excuse for concealing the existence of infectious disease in your house.

3.—Legal proceedings will at once be instituted against any person who wilfully exposes—in any street or other public place—any one suffering from Scarlet Fever or other dangerous infectious disease, or any infected bedding or clothing, contrary to the provisions of the 126th Section of the Public Health Act, 1875. In the event of necessity to remove an infected person from one house to another, or to the hospital, a suitable carriage may be obtained gratuitously by application to the Health Office; but the exposure of infected patients by carrying them through the streets, or by conveying them in a public vehicle, is an illegal act, which will be dealt with as the law directs.

4.—On no account must a child be sent to school from a house in which Scarlet Fever exists, although the child itself may be quite well.

JOHN TATHAM, M.D.,

Medical Officer of Health.

Town Hall, Salford,

**Form G1.**

Warning by the Medical Officer of Health *re* Small-pox.

---

**SMALL-POX.**

The Medical Officer of Health desires to intimate that Small-pox is now prevalent within a short distance of Salford, and that more than one case has recently occurred in the Borough itself.

With a view, if possible, of arresting the further spread of this dangerous malady in Salford, your attention is hereby directed to the following provisions of the law, and to the accompanying items of advice with reference to Small-pox. These legal provisions will be rigorously enforced.

1.—Take care that all infants and young children in your family are vaccinated. If this has hitherto been neglected, lose no time in repairing to the Public Vaccinator, or to your own Medical Attendant. All persons above the age of 12 years should be re-vaccinated.

2.—If Small-pox occurs in your house you are bound, as the occupier thereof, yourself to report the fact forthwith to the Medical Officer of Health. Neglect to comply with this provision will render you liable to a heavy penalty.

3.—In case you suspect that an inmate of your house is suffering from Small-pox, you should at once call in a medical man, who will report the case, on your behalf, and so comply with the Law. But you cannot evade your own liability to report the case by neglecting to call in a medical attendant; for the plea of ignorance as to its nature, will not be accepted as an excuse for concealing the existence of infectious disease in your house.

4.—You are hereby cautioned against allowing your neighbours to enter your house so long as it contains an infectious person. You should also yourself abstain from visiting infected houses.

5.—Legal proceedings will at once be instituted against any person who wilfully exposes—in any street or other public place—any one suffering from Small-pox or other dangerous infectious disease, or any infected bedding or



clothing, contrary to the provisions of the 126th Section of the Public Health Act, 1875. In the event of necessity to remove an infected person from one house to another, or to the hospital, a suitable carriage may be obtained gratuitously by application to the Health Office; but the exposure of infected patients by carrying them through the streets, or by conveying them in a public vehicle, is an illegal act, which will be dealt with as the law directs.

6.—On no account must a child be sent to school from a house in which Small-pox exists, although the child itself may be quite well.

JOHN TATHAM, M.D.,

Medical Officer of Health.

Town Hall, Salford.

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**Form H.**

Daily list of infected houses, forwarded by Medical Officer of Health,  
to Public Libraries.

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HEALTH OFFICE,

TOWN HALL, SALFORD,

188

DEAR SIR,

Cases of Infectious Disease have this day been reported to me at the undermentioned addresses.

Yours faithfully,

JOHN TATHAM, M.D.

ADDRESS.	DISEASE.

To M

Library.



APPENDIX II.

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SPECIAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

ON THE SUITABILITY OF

THE BOLTON LODGE ESTATE,

AS A SITE FOR A

FEVER HOSPITAL.

---

1888.



EXTRACT  
FROM THE MINUTES OF THE PROCEEDINGS  
OF THE  
GENERAL HEALTH COMMITTEE.

16TH FEBRUARY, 1888.

“RESOLVED—

“That the Report of the Medical Officer of Health, now  
“submitted, as to the suitability of the Bolton Lodge Estate, in  
“Eccles New Road, as a site for a Fever Hospital for the Borough,  
“be printed, and a copy sent to each member of the Council.

Truly extracted,

JOHN GRAVES,

TOWN CLERK.

# REPORT.

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II.—Accessibility of proposed Hos- pital site .....	xxvii	IV.—Summary and Conclusion.....	xxxiii

In compliance with the request of the Health Committee, that the Medical Officer of Health should furnish them with a special report as to the suitability or otherwise of the estate known as Bolton Lodge, on the Eccles New Road, for the purposes of a borough fever hospital—I beg to submit the following remarks for the information of the Committee.

In the Spring of last year, I presented to the Health Committee a provisional report on the subject of “future hospital accommodation for infectious disease.” That report had for its object the enunciation of those general and sanitary principles which should regulate the establishment of an institution intended for the isolation of infectious disease ; and also the collation, from the experience of other hospital authorities, of such information respecting approved methods of administration, as may prove a reliable guide to the Committee in the projection of a scheme for their new hospital.

At the date of that report, the important question of site could not be considered with reference to any particular area, inasmuch as no definite selection had at that time been made by the Committee. As the result, however, of careful enquiry, I was able to formulate for the guidance of the Committee, certain suggestions which would be applicable to any otherwise suitable area, and which had reference to (1) accessibility of site (2) certain special sanitary considerations ; and (3) the extent of the hospital area and its due seclusion from the outside world.

During the interval which has elapsed since the presentation of the above-mentioned report, the Health Committee have carefully examined a large number of sites, and have anxiously considered the merits of those which have been submitted for their approval.

In the event, however, they have agreed to the purchase, for £7,000, of the estate known as "Bolton Lodge," on the Eccles New Road, and their action has since received the approval of the Council.

Before, however, proceeding with the actual construction of the hospital, the Committee have instructed the Medical Officer of Health to furnish them, formally, with his opinion on the suitability of the site, having regard to all the circumstances of the case.

In the present report, I purpose to examine in detail the circumstances of the Bolton Lodge site, with a view of determining how far they fulfil the conditions which have been authoritatively declared to be necessary in the case of a site intended for the hospital accommodation of cases of infectious disease.\*

The subject, therefore, will be considered under the following headings :

*I.—Area, Geological Formation, Elevation, and Position of Site.*

Bolton Lodge stands on an open site of eleven acres of ground ; about one fourth part of which lies at a level considerably below that of the remainder of the area, which is occupied by the house itself.

Geologically considered, the site is a desirable one, inasmuch as it rests on the pebble beds, which are immediately contiguous to the new red sandstone proper : thorough dryness of the surface will therefore be assured, as the entire sandstone series is pervious. In point of elevation† the site stands 102 feet above ordnance datum, and 48 feet above the surface level of the projected Ship Canal. As regards position, the site lies to the south-west of

\* I would respectfully suggest that some such title as "Sanatorium" should be used to designate the new institution, as being less objectionable than "Fever Hospital" to timid and over-sensitive people

† For this information and for the chart which accompanies this report, which has been carefully traced and drawn to scale by Mr. Le Gros, I am indebted to the kindness of Mr. Jacob, the Borough Engineer.



Salford, in a sparsely populated suburb of the borough. Reference to the accompanying chart will show that within a radius of three hundred yards from the centre of the Bolton Lodge Estate, there are only nine inhabited houses, not more than two of these being within a radius of two hundred yards.

The estate forms part of the "enumeration district" number 134. This district is a very healthy one, as will appear from the fact that the average rate of mortality in the five years ending with 1883, was less than 14 per 1,000.

The position of Bolton Lodge is one which offers unusual facilities for efficient drainage. The present house drains into the main sewer in Eccles New Road, but the nature of the ground intervening between Bolton Lodge and the precipitation tanks lends itself readily to the construction of a separate sewerage system for the hospital, which in that event, might discharge immediately into the precipitation tanks, and consequently, all communication with the public sewers would be avoided.

In view of the prevalent belief as to the connection of enteric fever, and, perhaps other diseases also, with specific contamination of the sewers, the Health Committee would do wisely in determining to adopt a separate sewerage system in their new hospital.

## *II.—Accessibility of Hospital Site to population requiring it.*

The reasonable accessibility of a hospital to the homes of the people who will, prospectively, furnish the patients to its wards, is now generally regarded as an essential condition of success. Our experience in Salford at any rate is conclusive on this point. A hospital at a great distance may be ever so perfect in other respects, but it will not fulfil the purposes for which isolation hospitals were devised, unless the reasonable proximity of the hospital allows of frequent enquiry by the mothers or other relatives at the hospital gate, as to the condition of the patients.

Bolton Lodge is distant not more than  $1\frac{3}{4}$  miles from the centre of the Regent Road district, from which, hitherto, the greater proportion of our hospital patients have been derived. From Greengate the mean distance is  $2\frac{1}{2}$

miles, from Broughton  $2\frac{3}{4}$  miles, and from the densest part of the Pendleton District (which contains the hospital site itself) the mean distance does not exceed  $1\frac{1}{4}$  miles; whilst the hospital will be in the immediate vicinity of the large population which is certain to find a dwelling-place in close proximity to the Ship Canal Docks.

### *III.—Alleged Objections to proposed Hospital Site, on account of—*

#### *(a) ITS PROXIMITY TO DWELLING-HOUSES.*

Ever since the establishment of the Wilton Fever Hospital in Cross Lane, eleven years ago, I have been a watchful enquirer as to the influence of the hospital on the health of the residents in the adjacent dwelling-houses. And as the latter are the property of the Health Committee, I have no reason, from past experience, to believe that, occasion being given, the tenants would have been slow to make complaints of a character which might have tended to lower their rents.

Hitherto however, I have been unable to discover a single instance of conveyance of infection from the hospital wards to the residents in the adjoining houses, although the latter were in some cases not more than 21 feet distant from the wards which for months together have been full of patients.

The experience of other hospital physicians on this point, accords with my own. For example, in the year 1880, a careful investigation as to the “Distribution of fever cases in the immediate neighbourhood of the London Fever Hospital, Liverpool Road, Islington,” was made by Mr. Shirley F. Murphy, now professor of Hygiene at St. Mary’s Hospital: at that time Medical Officer of Health, St. Pancras, and previously Resident Medical Officer, London Fever Hospital. The complete report will be found in Dr. Thorne’s classical essay “on the use and influence of hospitals for infectious diseases,” published in 1882. The following excerpt from Mr. Murphy’s report will be instructive in the present connection.

“The most striking point in connection with the enquiry, is, that no evidence has been found that a single case of typhus has occurred in houses immediately surrounding a hospital, in which 18,073 cases of typhus have

been treated in 30 years, and in which there were for many winters, as many as from one to two hundred persons suffering from this disease at one time, although the inhabitants of many of these houses lived within a distance varying from 49 to 84 feet, or, if we include the water-closets, of from 36 to 71 feet of the sufferers, and the windows of the houses and of the wards have been opposite to each other.

“The gardens of these houses are within a distance varying from 22 to 32½ feet of the occupied wards, and it is impossible to doubt, but that during many years a large number of the inhabitants must have frequently been within this distance of them, yet not the least evidence remains of a single person contracting typhus.

“It is also of interest to observe that no case of relapsing fever was heard of during the epidemic of this disease, although the inhabitants of some of the houses of Barford Street lived within 49 to 60 feet of a ward which contained for several months not far short of 100 persons suffering from relapsing fever.

“If typhus, or relapsing fever had been found in these houses, there would be a strong probability of the hospital having been concerned in the production of such disease. But the same absence of cases cannot be expected with regard to scarlet fever. That some amount of scarlet fever shall exist, is only what must be expected in every district of London, and the only question for consideration is, whether there has been any special prevalence of this disease in the neighbourhood of the hospital. Table D\* shows that no such special prevalence has existed.” . . . “With regard to enteric fever, the fact that but five cases could be heard of during either inquiry, is sufficient evidence that the hospital had no influence in causing this disease in the houses immediately surrounding the hospital.”

I do not desire stronger evidence than the above in support of my contention, that the ordinary infectious diseases, namely,—scarlet, enteric, typhus, and relapsing fevers, may be treated with impunity in a properly constructed hospital, notwithstanding that it may be situated in even a populous district.

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\* I have not re-produced this table, but it will be found in the supplement to the tenth annual report of the Local Government Board, page 162. Mr. Murphy's report is illustrated with an instructive chart, showing the relation of the London Fever Hospital to the surrounding dwelling-houses.



If then, patients can safely be treated at the London Fever Hospital, surrounded as it is by dwelling-houses, or in such a hospital as that in Cross Lane, it is not unreasonable to hope that equal immunity from disaster may be enjoyed at Bolton Lodge, where in consequence of a tenfold greater area, the wards can be set back from the Eccles New Road a distance of 100 yards, and where no infective building will be allowed to approach either of the boundary walls more closely than some 40 feet.

There are at present only two dwelling-houses within a radius of 200 yards from the Bolton Lodge, and no existing house stands within 100 yards of the projected fever wards.

(b) POSITION OF SEWAGE WORKS IN RELATION TO HOSPITAL.

I have felt from the very first, that if any objection could conceivably be urged against the Bolton Lodge Estate, as a site for a fever hospital, it would be on the ground of the proximity\* of the Salford Sewage Works. I have, therefore, taken great pains to examine this question in all its bearings, and especially to ascertain the experience of the authorities of other towns in which sewage works of a similar character to our own have existed for several years, within an equal distance of dwelling-houses.

I find that there are four towns, namely:—Birmingham, Bolton, Coventry, and Halifax in each of which the precipitating tanks are within 200 yards, and in some cases less, of dwelling-houses. In each instance, the works had been in operation for a sufficient period to allow of the formation of a definite judgment as to their effect on the neighbouring population.

Without a single exception, the deliberate opinion of the local medical officers of health is opposed to the contention that sewage-precipitation works, as such, are a nuisance or a cause of ill-health. And in the case of the Birmingham works, which are the most extensive of the series, Dr. Hill says, decidedly, that no sickness whatever has been caused by them although the dwelling-houses are immediately contiguous, some of the houses being actually on the farm itself.

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\* It has been erroneously stated in the papers lately that the site is distant from the sewage works only 187 yards. The fact being, as may be seen by the chart, that the distance from Bolton Lodge to the nearest sewage tank exceeds 300 yards.—J. T.

With the object of furnishing the Committee with the most trustworthy and recent information obtainable on this point, I herewith submit a table in which are arranged the replies of the several health officers who have had lengthened experience of the sanitary results of sewage precipitation processes similar to our own. As far as I know, the above are the only English towns where the sewage works are so near as 200 yards to inhabited houses.

QUESTIONS PROPOSED.	REPLIES FROM MEDICAL OFFICERS OF HEALTH.			
	Birmingham. (Dr. Hill.)	Bolton. (Dr. Sergeant.)	Coventry. (Dr. Fenton,)	Halifax. (Dr. Ainley.)
I.—Date of adoption of Precipitation process ? ...	15 years ago.	1872.	1871.	15 years ago.
II.—Distance of sewage works from inhabited area ?..	Immediately contiguous, somehouses on the farm	200 yards.	About 200 yards, sparsely populated for $\frac{1}{4}$ mile round.	A few houses within a hundred yards on three sides.
III.—Has there been excessive incidence of diphtheria, enteric fever, or throat illness, among residents within 200 yards of works ? .....	No, decidedly not.	Not to my knowledge.	No.	None.
IV.—Do you consider that your system of sewage treatment has proved to be a nuisance, or in any way detrimental to the public health ? .....	Certainly not.	No.	No. I do not consider our works would be any nuisance, even in a tolerably thickly populated neighbourhood.	None whatever.

As regards our own sewage works, the following points deserve notice.

1.—The tanks are situate due S.E. of the proposed hospital, a direction from which winds blow on the average but thirty-seven days annually : consequently, whatever nuisance the works may emit would be perceptible during but a small fraction of the year.



2.—That whatever nuisance may have emanated from the works hitherto, is due, not to the operations conducted in the tanks, but to the burning of sludge in furnaces of inadequate power.

I have myself been conscious, at times, of the emission of offensive effluvia from the crematory process ; but if the nuisance is so great as to be effective at a distance of 300 yards to the north west of the works, how much rather must it be operative at the neighbouring houses in Weaste which lie to the N.E. of the works, *i.e.*, in the course of the prevailing winds. The abatement of such a nuisance is imperative on the Sanitary Authority for the protection of the residents in Weaste, altogether irrespective of any future fever hospital ; and when the nuisance shall have been reduced to such proportions as to be tolerable to these people, it will be practically imperceptible and quite harmless at Bolton Lodge.

In order to test the general accuracy of a statement which has obtained circulation in the papers, to the effect that sore throats, and other diseases of a low type have been excessively prevalent in the neighbourhood of Weaste, since the establishment of the sewage works.—I have communicated with certain medical practitioners who, since the opening of the works, as well as for many years previously, have conducted extensive practices in that portion of the Borough. The replies I have received from my medical brethren are to the following effect :—First, that according to their experience, there has not been, in the neighbourhood of Weaste, any excessive prevalence of diseases of the type referred to, since 1883, in which year the works first came into operation ;—and, secondly, that diseases of that nature have not been more prevalent there since the establishment of the sewage works, than in previous years.

“As a matter of fact,” writes one correspondent, who has been in extensive practice at Weaste for the last 20 years.—“As a matter of fact, I believe that there has been *less sickness* in Weaste and neighbourhood, in the last 5 or 6 years than in former years. Whenever sore throat has been rife there, I have always found it equally so in other districts, where it could not possibly be attributed to the sewage works.” “*I sincerely hope that the site for the new Hospital at Bolton Lodge will be confirmed—it is an admirable one.*”



(c.) NEARNESS OF RIVER IRWELL, AND OF ADJACENT LOW-LYING LAND.

In view of the fact that the river is shortly to be converted into the Ship Canal, it will be absolutely necessary to improve the condition of water and the water course, and the latter operation will tend greatly to improve the drainage of the contiguous land.\* Moreover, the execution of this work will obviously be necessary in order to convert the land into a site for building purposes. Little importance therefore can be held to attach to the objections which have been raised on this ground.

(d) ITS SITUATION, WITH REFERENCE TO TRAMWAY AND RAILROAD.

In a carelessly managed hospital I can easily imagine that damage may be anticipated as a result of facilitating communication with the inmates of the fever wards.

It should be mentioned however, that in all well administered fever hospitals, the following rules are rigidly and continuously observed.

1.—That no nurse is allowed to leave the hospital without previously changing the uniform which alone she is permitted to wear in the wards.

2.—That friends of patients before entering the wards, are required to envelope themselves in an over-garment kept at the hospital for the purpose, with the object of preventing the conveyance of infectious particles from the hospital wards to the outside world.

Even if the friends of the class of patients whom we admit to hospital were able to afford the luxury of a train or tram ride, which I fear is seldom the case, it will be allowed that the precautions which I have referred to, and which will assuredly obtain at the new hospital, will reduce to a minimum the risk on this account

*IV.—Summary and Conclusion.*

In deciding as to the suitability of a site for the isolation of such a proportion of the infectious sickness incidental to a vast urban population, as will ensure the keeping of infection within reasonable control, it is

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\*It is not correct to characterise as a "swamp," the low-lying land intervening between the Bolton Lodge and the River. The land is subject to inundation during excessively high floods: but this has occurred only twice within the last ten years.

necessary to bear in mind that, from the very nature of the case, it is impossible to secure in the suburbs of a vast town, many of the advantages of airiness and atmospheric purity, which in the country would be easy of attainment.

There is probably no available site in Salford, or within a reasonable distance of its boundaries, which would be free from objection on one ground or another. But, having regard to all the circumstances of our situation as set forth in the preceding pages, namely,—(1.) to the reasonable accessibility of the site to the densest portion of the population, prospective as well as present. (2.) to the relatively open and airy character and the adequate extent of the site, and the facilities which it affords for independent drainage. (3.) to the reassuring nature of the evidence received from other towns as to the healthiness of the dwellers in the immediate vicinity of sewage works; and (4.) to the fact, that any nuisance emanating from our sewage works is controllable by the Corporation,—on these several grounds the site appears to me to be a desirable one; and I see no valid reason why the Health Committee should vary the decision at which they have already arrived; or why the operations necessary to erect on the Bolton Lodge estate, a hospital for the treatment of infectious diseases should be further delayed.

JOHN TATHAM, B.A., M.D.

Town Hall, Salford,

February 16th, 1888.



# PLAN SHOWING SITE OF PROPOSED SANATORIUM, WITH ITS SURROUNDINGS.



Boro. Engineers Office,  
Town Hall - Salford.





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